

Based on the New Textbook

NAVNEET ECONOMICS Digest STANDARD XII

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INTRODUCTION TO MICROECONOMICS AND MACROECONOMICS

IMPORTANT CONCEPTS

- **Microeconomics** : Microeconomics is the branch of modern economics concerned with the study of individual economic unit.
- **Macroeconomics** : Macroeconomics is the branch of modern economics concerned with the study of economy as a whole.
- **Microeconomic / Micro Variables** : The economic variables of micro quantities are called microeconomic / micro variables.
- **Macroeconomic / Macro Variables** : The economic variables of macro quantities are called macroeconomic / macro variables.

CHAPTER AT A GLANCE

1. Introduction :

(1) Microeconomics and macroeconomics are the two main branches of modern economics. The terms microeconomics and macroeconomics were first coined by Norwegian economist **Ragnar Frisch** of Oslo University in 1933.

(2) The term microeconomics is derived from the Greek word 'mikros' which means a small, or millionth part. Thus, microeconomics studies small, particular units of an economy.

(3) The term macroeconomics is derived from the Greek word 'makros' which means large. Thus, macroeconomics studies the economy as a whole.

2. Meaning and Definitions of Microeconomics :

(1) Microeconomics is the branch of economics concerned with the study of economic behaviour of individual economic unit such as individual consumer, individual producer or a firm, the price of a particular commodity or a factor, etc.

(2) According to **Maurice Dobb**, "Microeconomics is in fact a microscopic study of the economy".

(3) According to **Prof. A. P. Lerner**, "Microeconomics consists of looking at the economy through a microscope, as it were, to see how the millions of cells in the body of economy –

the individuals or households as consumers and individuals or firms as producers play their part in the working of the whole economic organism."

3. Scope of Microeconomics :

The scope of microeconomics is mainly confined to price theory and resource allocation. The scope of microeconomics is explained in the following table :

The Scope of Microeconomics	Explanation
1. Theory of Product Pricing	(1) Explains how the prices of variety of goods and services are determined. (2) Includes demand analysis and supply analysis.
2. Theory of Factor Pricing	(1) Explains how the prices / rewards are received by the factors of production. (2) Includes theories of rent, wages, interest and profit.

3. Theory of Economic Welfare	Studies : (1) efficiency in production (2) efficiency in consumption and (3) overall economic efficiency.
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4. Features of Microeconomics :

The features of microeconomics is explained in the following table :

Features of Microeconomics
1. Concerned with the study of the economic behaviour of small individual economic units such as particular household, individual firm, etc.
2. Primarily concerned with price determination of goods and services as well as factors of production. So it is also known as price theory.
3. Analyses the partial equilibrium position of an individual economic unit on the assumption of 'Ceteris Paribus', i.e. "Other things remaining the same".
4. Based on the assumptions such as full employment, pure capitalism, laissez-faire policy, perfect competition, 'Ceteris Paribus', etc.
5. Uses slicing method. It splits or divides the whole economy into small individual units and then studies each unit separately in detail.
6. Uses the concept of marginalism as the key tool in microeconomic analysis.
7. Analyses different market structures such as Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly, etc.
8. Has limited scope, as it doesn't deal with the nationwide economic problems and macro variables.

5. Importance of Microeconomics :

The importance of microeconomics is explained in the following table :

Importance of Microeconomics
1. Explains how the prices of different products and various factors of production are determined.
2. Helps in understanding the working of a free market economy.
3. Helps in explaining various aspects of foreign trade like effects of tariff, currency exchange rates, gains from international trade, etc.
4. Helps in understanding various complex economic situations with the help of economic models.
5. Helps businessmen for taking crucial business decisions related to cost of production, determination of prices of goods, maximization of output and profit, etc.
6. Useful to government in framing economic policies and attaining the goal of efficient allocation of resources and economic welfare of society.
7. Provides basis for the conditions of economic welfare.

6. Meaning and Definitions of Macroeconomics :

(1) Macroeconomics deals with the study of aggregates covering the entire economy. It is concerned with total employment, national income, national output, aggregate demand, aggregate supply, aggregate consumption and aggregate savings, total investment, etc. It is an aggregative economics.

(2) According to **J. L. Hansen**, "Macroeconomics is that branch of economics which considers the relationship between large aggregates such as the volume of employment, total amount of savings, investment, national income, etc."

(3) According to **Prof Carl Shapiro**, "Macroeconomics deals with the functioning of the economy as a whole."

7. Scope of Macroeconomics :

Macroeconomics deals with the study of aggregates covering the entire economy. Therefore, scope of macroeconomics is mainly confined to the following four theories shown in the following table :

The Scope of Macroeconomics	Explanation
1. Theory of Income and Employment	(1) Includes the study of determination of, causes for and remedies for fluctuations in level of national income and employment. (2) Includes study of consumption function and investment function and business cycles.
2. Theory of General Price Level and Inflation	Includes the study of determination of, causes for and remedies for fluctuations in General Price Level.
3. Theory of Growth and Development	(1) Includes the study of causes of underdevelopment and poverty in poor and developing countries and strategies for accelerating growth and development in them. (2) Includes the explanation of how the higher rate of growth with stability can be achieved in developed countries.
4. Macro Theory of Distribution	Includes the study of determination of relative shares of rent, wages, interest and profit in the total national income.

8. Features of Macroeconomics :

The features of macroeconomics is explained in the following table :

Features of Macroeconomics
1. Concerned with the study of the nation's economy as a whole. It is a study of economy-wide aggregates.
2. Also known as Theory of Income and Employment or simply Income Analysis. It is the study of determination of, causes for and remedies for fluctuations in level of national income and employment.
3. Based on general equilibrium analysis and takes into consideration the functional relationship and interdependence among various economic variables.
4. Takes account of interdependence between aggregative economic variables.
5. Uses lumping method to deal with macroeconomic variables.
6. Studies various factors that contribute to economic growth and development.
7. Studies the determination of, causes for and remedies for changes in general price level.
8. Helps in formulating suitable economic policies to promote economic growth, to generate employment, to control inflation, to pull the economy out of depression, etc.

9. Importance of Macroeconomics :

The importance of macroeconomics is explained in the following table :

Importance of Macroeconomics
1. Gives an idea of the functioning of aggregative variables in a large and complex economic system.
2. Studies the causes of and remedies for fluctuations in national income, total output, trade cycle and employment level.
3. Focuses upon the study of national income and social accounts.
4. Helps to understand the causes of and remedies for economic and social problems of poor and developing countries.

5. Helps to analyse the performance of an economy by the estimation of National Income.
6. Focuses upon the study of macroeconomic variables with respect to the problems related to them.
7. Helps to analyse the general level of employment and output in an economy.

10. The Difference Between Microeconomics and Macroeconomics :

The difference between microeconomics and macroeconomics can be explained with the help of the following table :

Point of Difference	Microeconomics	Macroeconomics
1. Meaning	A branch of economics studying the behaviour of individual unit of an economy.	A branch of economics studying the behaviour of aggregates of an economy as a whole.
2. Subject Matter	Study of individual demand, individual supply, individual income, etc.	Study of aggregate demand, aggregate supply, national income, etc.
3. Scope/ Theories	Scope of Microeconomics <pre> graph TD A[Scope of Microeconomics] --> B[Theory of Product Pricing] A --> C[Theory of Factor Pricing] A --> D[Theory of Economic Welfare] B --> B1[Demand Analysis] B --> B2[Supply Analysis] C --> C1[Rent] C --> C2[Wages] C --> C3[Interest] C --> C4[Profit] D --> D1[Efficiency in Production] D --> D2[Efficiency in Consumption] D --> D3[Overall Economic Efficiency] </pre>	Scope of Microeconomics <pre> graph TD A[Scope of Microeconomics] --> B[Theory of Income and Employment] A --> C[Theory of General Price Level and Inflation] A --> D[Theory of Economic Growth and Development] B --> B1[Theory of Consumption Function] B --> B2[Theory of Investment Function] B1 --> B3[Theory of Business Cycles] B2 --> B3 D --> D1[Macro Theory of Distribution] </pre>
4. Importance	Price determination, economic model building, business decisions, efficient allocation of resources, etc.	Analysis of fluctuations in economy, estimation of national income, remedies for achieving economic development, analysis of general employment level, etc.

EXERCISE

1 Choose the correct option : (1 Mark each)

* (1) The branch of economics that deals with the allocation of resources.

- (a) Microeconomics (b) Macroeconomics
(c) Econometrics (d) None of these

Options : (1) a, b and c (2) a and b

(3) Only a (4) None of these

* (2) Concepts studied under microeconomics.

- (a) National income (b) General price level
(c) Factor pricing (d) Product pricing

Options : (1) b and c (2) b, c and d

(3) a, b and c (4) c and d

* (3) Method adopted in microeconomic analysis.

- (a) Lumping method (b) Aggregative method
(c) Slicing method (d) Inclusive method

Options : (1) a, c and d (2) a, b and d

(3) Only c (4) Only a

* (4) Concepts studied under macroeconomics.

- (a) Whole economy
(b) Economic development
(c) Aggregate supply
(d) Product pricing

Options : (1) a, b and c (2) b, c and d

(3) Only d (4) a, b, c and d

(5) Scope of macroeconomics.

- (a) Consumption function
- (b) Investment function
- (c) Individual demand
- (d) Employment level

Options : (1) a, b and d (2) b, c and d
(3) Only d (4) Only c

Ans. (1) (3) Only a (2) (4) c and d (3) (3) Only c
(4) (1) a, b and c (5) (1) a, b and d.

2 Find the odd word(s) : (1 Mark each)

- (1) Individual demand, Individual Supply, Individual Income, Price level
- (2) Price level, Employment level, Determination of rent, National income
- (3) Product pricing, Theory of economic growth and development, Factor Pricing, Theory of economic welfare
- (4) Theory of economic growth and development, Theory of income and employment, Macro theory of distribution, Theory of economic welfare
- (5) Profit, Land, Labour, Capital

Ans. (1) Price level (2) Determination of rent
(3) Theory of economic growth and development
(4) Theory of economic welfare (5) Profit.

* 3 Complete the correlation : (1 Mark each)

- (1) Microeconomics : Slicing method : :
Macroeconomics :
- (2) Microeconomics : Tree : : Macroeconomics :
- (3) Macroeconomics : Income and employment theory : : Microeconomics :
- (4) Makros : Macroeconomics : : Mikros :
- (5) General equilibrium : Macroeconomics : :
 Microeconomics.

Ans. (1) Lumping method (2) Forest (3) Theory of product pricing / Theory of factor pricing / Theory of economic welfare (4) Microeconomics (5) Partial equilibrium.

4 Give economic terms : (1 Mark each)

- (1) A type of equilibrium that explains the equilibrium of the entire economy.
- (2) The economic variables of macro quantities.
- (3) A type of equilibrium that explains the equilibrium of individual economic unit.
- (4) The economic variables of micro quantities.
- (5) Reward of capital.

Ans. (1) General equilibrium (2) Macroeconomic variables (3) Partial equilibrium (4) Microeconomic variables (5) Interest.

5 Assertion and Reasoning type questions : (1 Mark each)

(1) **Assertion (A)** : Microeconomics has comparatively narrower scope.

Reasoning (R) : Microeconomics studies economic behaviour of only individual economic units of economy.

- (1) (A) is True, but (R) is False
- (2) (A) is False, but (R) is True
- (3) Both (A) and (R) are True and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are True and (R) is the correct explanation of (A)

(2) **Assertion (A)** : Macroeconomics is also known as Income Analysis.

Reasoning (R) : Macroeconomics studies the income earned by a particular individual or a particular firm.

- (1) (A) is True, but (R) is False
- (2) (A) is False, but (R) is True
- (3) Both (A) and (R) are True and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

Ans. (1) (A) is True, but (R) is False.

6 Identify and explain the concepts from the given illustrations : (1 Mark each)

*** (1) Gauri collected the information about the income of a particular firm.**

Ans. (A) Identified concept : Study of individual economic unit.

(B) Explanation of concept : The study of economic behaviour of a particular unit by isolating it from the other forces of economy is known as the study of individual economic unit. For example, microeconomics deals with the study of individual economic units such as individual firm, individual price, etc.

*** (2) Ramesh decided to take all decisions related to production, such as what and how to produce.**

Ans. (A) Identified concept : Business decision in a free market economy

(B) Explanation of concept : In a free market economy, producer has to make some decisions in order to achieve efficiency in production. Such decisions are called business decisions in a free market economy. The producer has to take business decisions regarding the price of the product.

production cost, etc. In case of business decision in a free market economy, there is no intervention by the government or any other agency.

*** (3) Shabana paid wages to workers in her factory and interest on her bank loan.**

Ans. (A) Identified concept : Payment of factor price / reward.

(B) Explanation of concept : The factors of production, viz. land, labour, capital and entrepreneur are essential for the production of goods. These factors of production get rewards in the form of rent, wages, interest and profit respectively from the producer for participating in the production process.

(4) Rajesh decided to count how many times he had to travel by rickshaw in a period of one month.

Ans. (A) Identified concept : Study of individual demand.

(B) Explanation of concept : Individual demand is a quantity of a particular commodity or service demanded by a consumer at a given price during a given period of time. Individual demand is studied in microeconomics.

7 Distinguish between the following :

(2 Marks each)

(1) Microeconomics and Macroeconomics :

Ans.

Microeconomics

Macroeconomics

1. Meaning

According to Maurice Dobb, "Microeconomics is in fact a microscopic study of the economy".

According to Prof Carl Shapiro, "Macroeconomics deals with the functioning of the economy as a whole."

2. Scope

The scope of microeconomics includes the theory of product pricing, theory of factor pricing and theory of economic welfare.

The scope of macroeconomics includes theory of income and employment, theory of general price level, theory of economic growth and development and macro theory of distribution.

(2) Slicing Method and Lumping Method :**Ans.**

Slicing Method	Lumping Method
1. Meaning	
Slicing method is a method used by microeconomics, in which the entire economy is divided into small units for an intensive study.	Lumping method is a method used by macroeconomics, in which the entire economy is divided into big lumps (or sectors) for aggregative study.
2. Nature	
Slicing method is used to study the micro quantities of economic variables.	Lumping method is used to study the macro quantities of economic variable.

(3) Partial Equilibrium and General Equilibrium :**Ans.**

Partial Equilibrium	General Equilibrium
1. Meaning	
Partial equilibrium is a type of equilibrium used in microeconomics, which explains the equilibrium of a particular unit of an economy.	General equilibrium is a type of equilibrium used in macroeconomics, which explains the equilibrium of the entire economy.
2. Nature	
Partial equilibrium neglects the functional relationship and interdependence between the economic variables by assuming 'other things being constant'.	General equilibrium assumes the functional relationship and interdependence between economic variables by assuming 'everything depends on everything else'.

8 Answer the following : (4 Marks each)*** (1) Explain the features of microeconomics.****Ans.** For the answer, refer to Q. 10 (1) Answer the following questions in detail.**(Note : Any four points are expected in answer.)***** (2) Explain the importance of macroeconomics.****Ans.** For the answer, refer to Q. 10 (5) Answer the following questions in detail**(Note : Any four points are expected in answer.)***** (3) Explain the scope of macroeconomics.****Ans.** The scope of macroeconomics is as follows :**(1) Theory of Income and Employment :**

Macroeconomics explains how the level of national income and employment is determined. It also examines the causes for fluctuations in national income and employment. To understand the

determination of the level of national income and employment, it also studies the consumption function, investment function and trade cycles. Macroeconomics studies the interrelationship between the level of output, national income and the employment level and suggests policies to solve the problems related to these macro variables.

(2) Theory of General Price Level and Inflation : Macroeconomics shows how the general price level is determined and further explains what causes fluctuations in it. The theory of general price level studies the causes and effects of inflation and depression and suggests economic policies to tackle these problems.

(3) Theory of Growth and Development : Macroeconomics studies the causes of underdevelopment and poverty in poor countries as well as developing countries and suggest

theories and strategies for accelerating growth and development in them. It also explains how the higher rate of growth with stability can be achieved.

(4) Macro Theory of Distribution :

Macroeconomics deals with determination of relative shares of various social classes in the total national income. Macro theory of distribution deals with the relative shares of rent, wages, interest and profit in the total national income.

(4) Write in brief about the historical review of microeconomics.

Ans. The historical review of microeconomics can be explained with the help of the following points :

(1) Microeconomic approach is relatively traditional approach. Origin of this approach can be traced back to era of classical economists.

(2) Adam Smith, 'The Father of Economics' in his well known book 'Wealth of Nations' followed microeconomic approach.

(3) Microeconomic approach is also found in the writings of David Ricardo and J.S. Mill.

(4) Dr. Alfred Marshall is in fact considered as the real architect of microeconomics. He in his book 'Principles of Economics' used marginalism principle and enthroned the concept of microeconomics.

(5) Prof. Pigou, J. R. Hicks, Prof. Samuelson, Mrs. Joan Robinson, Chamberlin are the other economists who have participated in the development of microeconomics.

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

* (1) The scope of microeconomics is unlimited.

Ans. No, I disagree with this statement.

Reasons : (1) The term 'microeconomics' is derived from the Greek word 'mikros' which means a small or millionth part. Thus, microeconomics studies particular unit of an economy.

(2) Microeconomics studies the economic behaviour of particular household, individual firm, individual demand, individual supply, individual income, price of a particular product, etc.

(3) Microeconomics studies how a particular consumer tries to attain maximum satisfaction and how a particular producer tries to attain maximum profit. Microeconomics does not include the study of the large aggregates. Thus, microeconomics is not aggregative but is individualistic in nature.

Therefore, the scope of microeconomics is not unlimited but it is limited.

* (2) Macroeconomics deals with the study of individual behaviour.

Ans. No, I disagree with this statement.

Reasons : (1) Macroeconomics does not study the individual economic unit such as particular consumer, individual demand, particular seller, individual supply, price determination of particular good, etc.

(2) Microeconomics studies individual economic units and deals with how a particular consumer attain maximum satisfaction and how a particular producer attain maximum profit.

(3) Macroeconomics studies the economic behaviour of aggregates, their functional relationship, their interdependence, their determination and causes of fluctuations in them.

Thus, macroeconomics does not deal with the study of individual behaviour, rather it deals with the study of behaviour of aggregates.

* (3) Macroeconomics is different from microeconomics.

Ans. Yes, I agree with this statement.

Reasons : (1) Macroeconomics is the study of entire economy. On the other hand, microeconomics is a study of a particular segment of an economy.

(2) Macroeconomics studies aggregate demand, aggregate supply, national income, general price level, etc. On the other hand, microeconomics studies individual demand, individual supply, individual income, price determination of particular product, etc.

(3) Macroeconomics follows general equilibrium analysis. On the other hand, microeconomics follows partial equilibrium analysis. Macroeconomics uses lumping method. On the other hand, microeconomics uses slicing method.

Therefore, macroeconomics is different from microeconomics.

*** (4) Microeconomics uses slicing method.**

Ans. Yes, I agree with this statement.

Reasons : (1) Microeconomics studies the individual economic units of an economy. For example, study of a particular firm.

(2) For studying individual economic units, microeconomics splits the economy into small individual economic units.

(3) Then it studies the economic behaviour of each individual economic unit separately in detail.

Therefore, microeconomics uses slicing method.

*** (5) Microeconomics is known as Income Theory.**

Ans. No, I disagree with this statement.

Reasons : (1) Income Theory lies within the scope of macroeconomics.

(2) Microeconomics explains how the prices of a variety of goods and services are determined. Thus, theories of demand, supply, production function and cost fall within the scope of microeconomics.

(3) Microeconomics also explains how the prices of factors of production, viz., land, labour, capital and entrepreneur are determined. Thus, theories of rent, wages, interest and profit fall within the scope of microeconomics.

Therefore, microeconomics, is not known as Income Theory but is known as Price Theory.

(6) Macroeconomics is a partial equilibrium analysis.

Ans. No, I disagree with this statement.

Reasons : (1) Macroeconomics deals with entire economy in the context of equilibrium. Therefore, macroeconomics is a general equilibrium analysis.

(2) Macroeconomics studies the behaviour of number of aggregate economic variables at a time and takes into account their functional relationship and interdependence.

(3) Macroeconomics' general equilibrium approach assumes everything depends on

everything else. For example, macroeconomic approach explains how the equilibrium of aggregate supply and aggregate demand determines not only the price level but also the level of national income and level of employment.

Therefore, macroeconomics is not a partial equilibrium analysis, but it is a general equilibrium analysis.

10 Answer the following questions in detail : (8 Marks each)

(1) Explain the features of microeconomics.

Ans. The following are the features of microeconomics :

(1) Study of individual units : Microeconomics is concerned with the study of economic behaviour of small individual economic units of an economy. For example, microeconomics studies the economic behaviour of particular household, particular firm, price of a particular product, etc.

(2) Price theory : Microeconomics is primarily concerned with price determination of goods and services as well as factors of production, viz., land, labour, capital and entrepreneur. Therefore, microeconomics is also known as Price Theory.

(3) Partial equilibrium : Microeconomics isolates individual economic units from the other forces of economy. It analyses the equilibrium positions of individual economic units such as individual consumer, individual firm separately. Therefore, microeconomic analysis is a partial equilibrium analysis. Partial equilibrium analysis is based on the assumption of 'Ceteris Paribus', i.e. Other things remaining the same. Thus, partial equilibrium neglects the interdependence between economic variables of an economy.

(4) Based on certain assumptions : Microeconomics is based on certain assumptions such as full employment, pure capitalism, laissez-faire policy, perfect competition, etc. prevailing in an economy. But in reality, an economy with such conditions does not exist. Most of the theories of microeconomics are based on the 'Ceteris Paribus' assumption, i.e., Other things remaining the same.

(5) Slicing method : Microeconomics splits the economy into small individual units. Then it studies the economic behaviour of each individual unit separately in detail. Thus, microeconomics uses slicing method for its analysis.

(6) Use of marginalism principle : Consumers as well as producers take all important microeconomic decisions at the margin. Therefore, microeconomics uses marginalism principle as a tool of analysis.

(7) Analysis of market structures : Microeconomics studies market structures such as perfect competition, monopoly, oligopoly, monopolistic competition, etc. It also describes how the prices of goods and services are determined in these markets.

(8) Limited scope : Microeconomics does not deal with national economic problems such as poverty, unemployment, inflation, depression, deficit in balance of payments, etc. Therefore, microeconomics has limited scope.

(2) Explain the scope of microeconomics.

Ans. The scope of microeconomics is mainly confined to price theory and resource allocation. Microeconomics seeks to obtain solutions to the basic economic questions such as what goods are to be produced, how many goods are to be produced, who should produce goods, how the goods are to be produced, how the produced goods are to be distributed, how the resources are to be efficiently allocated to production and consumption, etc. Thus, the scope of microeconomics can be explained as follows :

(A) Price Theory : The scope of microeconomics is confined to price theory. It includes following price theories :

(1) Product pricing : Microeconomics explains how the prices of variety of goods and services are determined. The prices of various goods and services get determined by the equilibrium of their demand and supply forces. Thus, theories of demand, supply, cost and production function are within the scope of microeconomics.

(2) Factor pricing : Microeconomics also explain how the prices of factors of production, viz., land, labour, capital and entrepreneur are determined. The prices of factors of production also get determined by equilibrium of their demand and supply forces. Thus theories of rent, wages, interest and profit lie within the scope of microeconomics.

(B) Theory of Welfare : Theory of Welfare also lies within the scope of microeconomics. Theory of Welfare basically deals with efficiency in the allocation of resources. Efficiency in allocation of resources is attained when it results in the maximum satisfaction of people in an economy. Therefore, microeconomics studies the following three efficiencies :

(1) Efficiency in production : Efficiency in production means, to produce maximum possible amount of goods from the given amount of resources. Microeconomics analyses how efficiency in production can be obtained.

(2) Efficiency in consumption : Efficiency in consumption means, distribution of produced goods and services among the people for consumption in such a way as to maximize total satisfaction of society. Microeconomics analyses how efficiency in consumption can be obtained.

(3) Overall economic efficiency : Overall economic efficiency means, producing those goods which are most desired by people in society. Microeconomics analyses how overall economic efficiency can be obtained.

From these points, it can be noticed that the scope of microeconomics is mainly concerned only with price theory and resource allocation. It does not study the aggregates relating to whole economy. It does not study national economic problems such as unemployment, poverty, inequality in income, etc. It does not include study of theory of growth, monetary policy, fiscal policy, etc. Therefore, the scope of microeconomics is comparatively limited and narrower.

*** (3) Explain the importance of microeconomics.**

Ans. The importance of microeconomics can be explained with the help of the following points :

(1) Helpful in explaining price determination : Microeconomics helps in explaining the price determination of goods and services as well as factors of production.

(2) Helpful to understand the working of free market economy : Microeconomics helps to understand how free market economy works and gets regulated by demand and supply principles. Microeconomics helps producers to take business decisions about what to produce, how to produce, how much to produce, etc. at individual levels. There is no intervention by government or any other agency in this decision making process.

(3) Helpful in foreign trade : Microeconomics is useful in studying the aspects related to foreign trade such as effects of tariff, determination of exchange rate, gains from international trade, etc.

(4) Helpful in economic model building : Microeconomics helps in understanding complex economic situations with its variety of models. Many terms, concepts, terminologies, tools of economic analysis of microeconomics have valuably contributed to the science of economics.

(5) Helpful to businessmen in taking business decisions : Microeconomics help businessmen in formulating prices of products or services, minimizing the cost of production, analysing profitability of investment, attainment of maximum productivity, etc. It also helps businessmen in demand forecasting.

(6) Useful to government : Microeconomics is useful to government in framing economic policies such as tax policy, public expenditure policy, price policy, etc. Microeconomics also guides government in attaining the goal of efficient allocation of resources and economic welfare of society.

(7) Basis of welfare economics : Microeconomics provides explanation for the conditions of economic welfare. It explains how

the maximum welfare of people in society can be achieved by avoiding wastage of resources.

Thus, microeconomics has many theoretical and practical importance as well as uses.

*** (4) Explain the concept of macroeconomics and its features.**

Ans. The word macro is derived from the Greek word 'makros', meaning large or aggregate (total). Macroeconomics therefore is the study of aggregates covering the entire economy. It is also known as Theory of Income and Employment or simply as Income Analysis. The following are the features of macroeconomics :

(1) Study of aggregates : Macroeconomics deals with the study of a nation's economy as a whole. It is the study of very large, economy-wide aggregates such as national output or national income, total employment, aggregate demand, aggregate supply, total investment, total consumption, general price level, etc.

(2) Income theory : Macroeconomics is also known as theory of Income and Employment or Income Analysis. Macroeconomics explains the determination of the level of national income and employment and what causes fluctuations in them. Further it explains the growth of national income over a long period of time and social accounting.

(3) General equilibrium analysis : Macroeconomic analysis is based on general equilibrium analysis. This analysis deals with entire economy in the context of equilibrium. It studies the behaviour of number of economic variables at a time and takes into consideration their functional relationship and interdependence. It explains how aggregate supply and aggregate demand are brought into equality and how equilibrium between these forces determine price level as well as level of income and employment. This whole analysis involves the study of number of variables and their interactions.

(4) Based on interdependence :

Macroeconomics takes accounts of interdependence between aggregative economic variables such as national income, total output, employment level, total investment and price level, etc. For example, it explains how change in the level of total investment will finally change the level of national income, total output, employment level and eventually level of economic growth.

(5) Use of lumping method : Macroeconomics deals with the behaviour of aggregates, i.e. total values of economic variables related to whole economy. It uses method of lumping to deal with macro variables such as aggregate demand, aggregate supply, national output, etc.

(6) Study of growth models : Macroeconomics studies in detail various factors that contribute to economic growth and development. Macroeconomics is useful in developing economic growth models. These economic growth models are used for studying economic development. For example, Mahalanobis growth model emphasized on basic heavy industries.

(7) Study of general price level : Macroeconomics studies the determination of general price level. General price level is the average of all prices of goods and services currently being produced in the economy. Macroeconomics also studies the changes in the general price level, i.e. trade cycles.

(8) Policy oriented : Macroeconomics, according to Keynes, is a policy oriented science. Macroeconomic analysis helps in formulating suitable economic policies to promote economic growth, to generate employment, to control inflation, to pull the economy out of depression, etc.

(5) Explain the importance of macroeconomics.

Ans. The importance of macroeconomics can be explained with the help of the following points :

(1) Explanation of functioning of an economy : Macroeconomic analysis gives an idea of the functioning of an economic system. It helps to understand the economic behaviour patterns of aggregative variables in a large and complex economic system.

(2) Explanation of economic fluctuations : Macroeconomics helps to analyse the causes of fluctuations in national income, total output, trade cycle and employment level and makes an attempt to control them or reduce their severity.

(3) Study of national income : Study of macroeconomics is of immense importance as it is related to the study of national income and social accounts. Without a study of national income, it is not possible to formulate correct economic policies.

(4) Consideration of economic development : Macroeconomic theories and models help to understand the economic and social problems of poor and developing countries such as poverty, inequalities of income and wealth, differences in the standards of living of the people, etc. It suggests important steps to achieve economic development in these countries.

(5) Helpful in measuring the performance of an economy : Macroeconomics helps to analyse the performance of an economy. National Income (NI) estimates are used to measure the performance of an economy over time by comparing the production of goods and services in one period with that of the other period.

(6) Study of macroeconomic variables : To understand the working of the economy, macroeconomics focuses upon the study of macroeconomic variables. In India, main economic problems are related to the macroeconomic variables such total income, total output, employment level and general price level in the economy. Macroeconomics studies the problems related to these macroeconomic variables.

(7) Study of level of Employment : Macro economics helps to analyse the general level of employment and output in an economy.

(6) Write in brief about the historical review of macroeconomics.

Ans. The historical review of macroeconomics can be explained with the help of the following points :

(1) Macro approach to study economy is comparatively new and is of recent origin.

(2) Though it is a modern approach, it did prevail even before the evolution of microeconomics.

(3) In the 16th and 17th century, followers of Mercantilists (a group of English merchants) advocated policies to the government which were based on macro approach.

(4) In the 18th century, Physiocrats (French Thinkers) tried to analyse the concept of national income and wealth.

(5) The Classical Economic theories of Prof. Adam Smith, Prof. Ricardo and Prof. J. S. Mill discussed the determination of national income

into total wages, total rent and total profit. But their macro analysis was combined with micro analysis.

(6) The Neo-classical economists especially Dr. Marshall and Pigou, relegated macroeconomics to the background. Their micro analysis ruled the world of economics till the Great Depression of 1930s.

(7) After the Great Depression, revolutionary and fundamental changes took place in the economic thinking. Lord John Maynard Keynes published his very famous book the "General Theory of Employment, Interest and Money" in 1936. Keynes used macro approach to analyse economic problems. After the publication of Keynesian theory, macroeconomic analysis became the more important and popular approach to economic analysis. Therefore, the credit for the development of macroeconomic approach goes to Lord Keynes.

(8) Besides Keynes, Malthus, Karl Marx, Wicksell, Walrus, Irving Fisher are other economists who have participated in the development of macroeconomics.

* * *



UTILITY ANALYSIS

IMPORTANT CONCEPTS

- **Total Utility (TU)** : Total utility refers to the sum of utilities derived from the consumption of all the units of a commodity.
- **Marginal Utility (MU)** : Marginal utility refers to the utility derived from the consumption of the last unit of commodity.
- **Point of Satiation** : Point of satiation is point, where want of a particular commodity is fully satisfied. It is a point where TU is the maximum and MU is zero.

CHAPTER AT A GLANCE

1. Introduction :

(1) Human wants are unlimited and means are limited. Therefore all human wants cannot be satisfied at a time.

(2) However, particular want can be satisfied fully at a specific time and a person can maximise his satisfaction from it.

2. Features of utility :

The features of utility are explained in the following table :

Features of Utility
1. Changes from place to place and time to time.
2. Changes from person to person.
3. Never takes into account the concepts such as good or bad, moral or immoral, etc.
4. Is different from usefulness.
5. Is different from pleasure.
6. Is different from satisfaction.
7. Being a psychological concept, cannot be measured in numbers.
8. Is multipurpose, as a particular commodity can satisfy various needs of more than one individual.
9. Has direct relation to intensity of want.
10. Forms the basis of demand.

3. Types of utility :

Types of utility are explained in the following table :

Types of Utility	Explanation
1. Form Utility	Utility increased by changing the shape, size, structure of a commodity.
2. Place Utility	Utility increased by changing the place of utilisation of a commodity.
3. Service Utility	Utility obtained from the services of professionals.
4. Knowledge Utility	Utility obtained from acquiring knowledge
5. Possession Utility	Utility obtained from transfer of ownership rights of goods from one person to another.
6. Time Utility	Utility increased by changing the time of utilization of a commodity.

4. Concepts of utility :

(1) **Total Utility** : Total utility refers to the sum of utilities derived from the consumption of all the units of a commodity.

(2) **Marginal Utility (MU)** : Marginal utility refers to the utility derived from the consumption of the last unit of commodity.

(3) Relationship between Total Utility and Marginal Utility :

(1) Initially, at the first unit of consumption, the total utility and marginal utility are equal.

(2) From the second unit of consumption, the total utility increases with the diminishing rate and the marginal utility diminishes.

(3) When the marginal utility becomes zero, the total utility is the maximum (Point of satiety).

(4) When the marginal utility becomes negative, the total utility also starts diminishing (State of dissatisfaction).

(5) A rational consumer stops the consumption of a commodity at a point of satiety.

(6) Beyond a point of satiety, continuity in consumption gives dissatisfaction to the consumer.

5. The Law of Diminishing Marginal Utility :

(1) The law of DMU was first proposed by Mr. Gossen. However, this law was further explained by Dr. Alfred Marshall in his famous book, 'Principles of Economics' in 1890.

(2) **Statement of Law :** According to Dr. Alfred Marshall, "Other things being equal, the additional benefit which a person derives from the increase in the stock of a thing diminishes with every increase in the stock that he already has."

6. Assumptions of the Law of Diminishing Marginal Utility :

The law of Diminishing Marginal Utility is based on the following some assumptions :

(1) The law assumes that a consumer is a rational person and he tries to maximize his satisfaction.

(2) The law assumes that utility can be measured in numbers.

(3) The law assumes that units of a commodity consumed by a consumer are identical in size, shape, colour, taste, etc.

(4) The law assumes that all units of consumption are consumed in quick succession, one after another.

(5) The law assumes that the size of unit of commodity of consumption is reasonable.

(6) The law assumes that income, taste, habits, preferences, likings, etc. of a consumer as well as the price of commodity remains constant throughout the period of consumption.

(7) The law assumes that the commodity consumed by the consumer is divisible.

(8) The law assumes that the commodity is used to satisfy only a single want, i.e. a want of consumption.

(9) The law assumes that utility of money income remains constant.

7. Exceptions to the Law of Diminishing Marginal Utility :

There are no real exceptions to the law of DMU. It is said that in the following some cases the law of DMU is not valid :

(1) **Hobbies :** It is so considered that in case of certain hobbies such as collection of stamps, rare coins, listening music, reading a book, etc. an individual derives more and more utility from every additional stamp or coin, additional listening of music or additional reading of a book.

(2) **Misers :** It is said that for a miser, the marginal utility of money increases with every increase in a stock of money.

(3) **Addictions :** It is said that a drunkard derives more and more marginal utility from consumption of every additional unit of liquor.

(4) **Power :** It is said that a person derives more and more utility from acquisition of more and more power.

(5) **Money :** It is said that a person derives more and more marginal utility with every additional unit of money.

But in all the above-mentioned cases either one or more than one assumptions of the law of DMU like the homogeneity, continuity and rationality are violated. Therefore, they are no real exceptions to the law.

8. Limitations (Criticisms) of the Law of Diminishing Marginal Utility :

The limitations (criticisms) of the law of DMU are as follows :

(1) **Unrealistic assumptions :** The law of DMU is based on unrealistic assumptions such as

homogeneity of units, continuity in consumption, rationality of consumer, etc. but it is different to fulfil all these conditions at a point of time.

(2) Cardinal measurement : The law of DMU wrongly assumes that utility can be measured in numbers, but in reality cardinal measurement of utility is not possible as utility is a psychological concept.

(3) Indivisible goods : The law is not applicable to bulky and indivisible goods like T.V., cars, houses, etc. as they are purchased in single unit at a time.

(4) Constant marginal utility of money : The law of DMU wrongly assumes that the marginal utility of money remains constant.

(5) A single want : The law of DMU wrongly assumes that a person wants to satisfy a single want at a time.

9. Significance of the Law of Diminishing Marginal Utility :

The significance of the law of DMU can be explained with the help of the following points :

- (1) The law helps the consumers to achieve maximum satisfaction.
- (2) The law is useful to the government in

framing various policies such as progressive tax policy, trade policy, pricing policy, etc.

(3) The law of DMU helps in explaining the paradox of value in use and value in price in the case of water, air, sunlight and gold.

(4) The law of DMU serves as the base for the law of demand. When a consumer consumes (demands) more units of goods, the marginal utility steadily declines. Therefore, the additional units of a commodity are demanded only at a comparatively lower price.

10. Relationship between Marginal Utility and Price :

(1) In case of "Intra-marginal units", the marginal utility in terms of money is greater than the price paid. All these units of consumption will be demanded by a rational consumer.

(2) In case of "Marginal unit", the marginal utility in terms of money is equal to the price paid. At this point, a rational consumer will stop demanding further units of consumption.

(3) In case of "Extra-marginal units", the marginal utility in terms of money is lesser than the price paid. All these units of consumption will not be demanded by a rational consumer.

EXERCISE

1 Complete the following statements by choosing the correct alternatives :

(1 Mark each)

*[1]

(1) In the law of diminishing marginal utility, Alfred Marshall assumes that marginal utility of money

- (a) increases (b) remains constant
- (c) decreases (d) rises and then falls

(2) As per the law of diminishing marginal utility, measurement of utility is assumed to be

- (a) ordinal
- (b) cardinal
- (c) both ordinal and cardinal
- (d) none of the above

(3) MU of the commodity becomes negative when TU of a commodity is

- (a) rising (b) constant
- (c) falling (d) zero

(4) Point of Satiety means

- (a) TU is rising and MU is falling
- (b) TU is falling and MU is negative
- (c) TU is maximum and MU is zero
- (d) MU is falling and TU is rising.

(5) *When MU is falling (below zero), TU is

- (a) rising (b) falling
- (c) not changing (d) maximum

(Note : *The statement given in the textbook is incorrect, so correction is made in the same.)

Ans.

(1) In the law of diminishing marginal utility, Alfred Marshall assumes that marginal utility of money remains constant.

- (2) As per the law of diminishing marginal utility, measurement of utility is assumed to be cardinal.
- (3) MU of the commodity becomes negative when TU of a commodity is falling.
- (4) Point of Satiation means TU is maximum and MU is zero.
- (5) When MU is falling (below zero), TU is falling.

[2]

- (1) refers to want-satisfying power of a commodity.
 (a) Usefulness (b) Utility
 (c) Satisfaction (d) Happiness
- (2) Marginal utility diminishes, as consumption of a commodity
 (a) increases (b) decreases
 (c) remains constant (d) becomes zero
- (3) utility is the utility derived from the last unit of a commodity consumed.
 (a) Average (b) Total
 (c) Marginal (d) Zero
- (4) When MU is, TU is the maximum.
 (a) positive (b) negative
 (c) zero (d) high
- (5) Blood donation has utility.
 (a) place (b) time
 (c) knowledge (d) form

Ans.

- (1) Utility refers to want-satisfying power of a commodity.
- (2) Marginal utility diminishes, as consumption of a commodity increases.
- (3) Marginal utility is the utility derived from the last unit of a commodity consumed.
- (4) When MU is zero, TU is the maximum.
- (5) Blood donation has time utility.

2 Find the odd word : (1 Mark each)

- (1) Air, Water, Sunlight, Gold.
- (2) Notebook, Textbook, Chalk, Alcohol.
- (3) Teacher, Singer, Dentist, Chair.
- (4) Car, Television set, Chapati, Ruler-Scale.
- (5) Diamond, Gold, Silver, Water.

- Ans.** (1) Gold (2) Alcohol (3) Chair (4) Chapatti (5) Water.

3 Complete the correlation : (1 Mark each)

- (1) Furniture from wood : Form utility :: Study book :
- (2) Transportation of good : Place utility :: Teacher's teaching :
- (3) Intra marginal unit : MU > Price :: : MU < Price
- (4) Alfred Marshall : Marginal utility :: Hicks and Allen :
- (5) Water : Value in use > Value in exchange :: Value in use < Value in exchange.

- Ans.** (1) Knowledge utility (2) Service utility (3) Extra marginal unit (4) Ordinal utility (5) Diamond.

4 Give economic terms : (1 Mark each)

[1]

- (1) Utility derived from raincoat in rainy season.
- (2) Utility derived from computer after completing computer training.
- (3) A commodity that cannot be divided into small quantities.
- (4) Want satisfying capacity of a commodity.
- (5) Quality in a commodity that is beneficial for the health.

- Ans.** (1) Time utility (2) Knowledge utility (3) Indivisible commodity (4) Utility (5) Usefulness.

[2]

- (1) The sum of the utilities derived from the consumption of all the units of a commodity.
- (2) The additional utility derived from the consumption of an additional (last) unit of a commodity.
- (3) A state beyond the point of satiation.
- (4) A utility derived by making pots from clay.
- (5) A curve of locus of points indicating particular combinations of two goods from which the consumer derives the same level of satisfaction.

- Ans.** (1) Total utility (2) Marginal utility (3) State of dissatisfaction (4) Form utility (5) Indifference curve.

5 Choose the correct option : (1 Mark each)

* (1)	'A'	'B'
(1) Time utility		(a) Transport
(2) Place utility		(b) Blood bank
(3) Service utility		(c) Mobile phone
(4) Knowledge utility		(d) Doctor

Options : (i) 1 - d, 2 - b, 3 - a, 4 - c

(ii) 1 - b, 2 - a, 3 - d, 4 - c

(iii) 1 - a, 2 - b, 3 - c, 4 - d

(iv) 1 - b, 2 - c, 3 - d, 4 - a

* (2) Statements indicating consumer equilibrium :

(a) MU is greater than price

(b) MU is equal to price

(c) MU is less than price

(d) Price is less than one

Options : (i) a and b (ii) a, b, c and d

(iii) a, b and c (iv) Only b

(3)	'A'	'B'
(1) Marginal utility	(a) Maximum total utility	
(2) Point of satiety	(b) Assumption of the law of DMU	
(3) Form utility	(c) Utility derived from the last unit	
(4) Cardinal measurement	(d) Cloth made from cotton	

Options : (i) 1 - c, 2 - a, 3 - d, 4 - b

(ii) 1 - a, 2 - d, 3 - c, 4 - b

(iii) 1 - b, 2 - d, 3 - c, 4 - a

(iv) 1 - c, 2 - a, 3 - b, 4 - d

Ans. (1) (ii) 1 - b, 2 - a, 3 - d, 4 - c.

(2) (iv) Only b.

(3) (i) 1 - c, 2 - a, 3 - d, 4 - b.

6 Identify and explain the concepts from the given illustrations : (1 Mark each)

* (1) Salma purchased sweater for her father in the winter season.

Ans. (A) Identified concept : Time utility.

(B) Explanation of concept : Utility increased/derived by changing the time of utilization of a commodity is called time utility.

* (2) Nilesh purchased ornaments for his sister.

Ans. (A) Identified concept : Possession utility.

(B) Explanation of concept : Utility increased/obtained from the transfer of ownership rights of goods from one person to another, is called possession utility.

* (3) Kavita consumed five units of oranges one after the other.

Ans. (A) Identified concept : Continuity in consumption.

(B) Explanation of concept : Continuity in consumption is a type of consumption in which various units of a commodity are consumed in quick succession, one after another (i.e. without any time gap). Continuity in consumption is one of the important assumptions of Law of DMU.

* (4) Bhushan refused to eat fifth chapati after eating four chapatis.

Ans. (A) Identified concept : Point of satiety of a rational consumer.

(B) Explanation of concept : The various units of a commodity consumed in quick succession leads to decrease in intensity of want and increase in the satisfaction. At a particular point, consumer's want gets fully satisfied. This point is called as a point of satiety. A rational consumer refuses to consume the next unit of consumption after the point of satiety.

* (5) Lalita satisfied her want of writing an essay by using pen and notebook.

Ans. (A) Identified concept : Utility.

(B) Explanation of concept : Utility refers to the capacity of a commodity to satisfy a human want.

(6) Sagar started a business of selling cold drinks in the summer.

Ans. (A) Identified concept : Time utility.

(B) Explanation of concept : For the explanation, refer to Q. 6 (1) (B).

(7) Although gold is not necessary for survival, the price of gold is high.

Ans. (A) Identified concept : Paradox of value.

(B) Explanation of concept : If a commodity is rare, its value in exchange (price) is high though

its value in use (necessity for survival) is low. The paradox between the value in exchange and value

in use of a commodity is known as a paradox of value.

* **7 Distinguish between the following :**

(2 Marks each)

(1) Utility and Usefulness :

Ans.

Utility	Usefulness
1. Meaning	
The want satisfying capacity of a commodity is called utility.	A quality of a commodity benefitting a consumer is called usefulness.
2. Interrelationship	
A commodity possessing utility may not be possessing usefulness.	A commodity possessing usefulness definitely possesses utility.

(2) Utility and Satisfaction :

Ans.

Utility	Satisfaction
1. Meaning	
The want satisfying capacity of a commodity is called utility.	Satisfaction is the feeling of pleasure which person experiences after completing consumption.
2. Nature	
Utility is the starting point of consumption; it is anticipated satisfaction.	Satisfaction is the end point of consumption; it is the actual realization.

(3) Total Utility and Marginal Utility :

Ans.

Total Utility	Marginal Utility
1. Meaning	
Total utility refers to the sum of utilities derived from the consumption of all the units of a commodity.	Marginal utility refers to the utility derived from the consumption of the last unit of a commodity.
2. Numerical value	
In normal case, the numerical value of total utility is always positive.	The numerical value of the marginal utility can be positive, zero or even negative.

(4) Place Utility and Time Utility :

Ans.

Place Utility	Time Utility
1. Meaning	
Utility increased by changing the place of utilization of a commodity is called place utility.	Utility increased by changing the time of utilization of a commodity is called time utility.
2. Creation	
Place utility is created by use of transport facilities.	Time utility is created by use of storage facilities.

(5) Form Utility and Time Utility :**Ans.****Form Utility****Time Utility****1. Meaning**

Utility increased by changing the shape, size, colour, etc. of a commodity is called form utility.

Utility increased by changing the time of utilization of a commodity is called time utility.

2. Creation

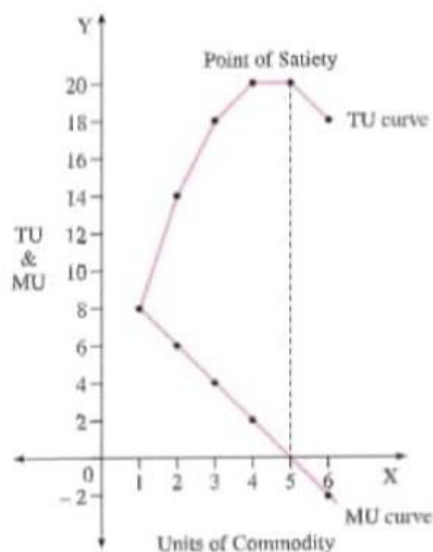
Form utility is created by changing the structure of an existing material to another structure.

Time utility is created by use of storage facilities.

8 Answer the following : (4 Marks each)**(1) Explain the relationship between Total Utility (TU) and Marginal Utility (MU).**

Ans. The relationship between Total Utility (TU) and Marginal Utility (MU) can be explained with the help of the following schedule and diagram :

Units of Consumption	Marginal Utility (MU)	Total Utility (TU)
1	08	08
2	06	14
3	04	18
4	02	20
5	00	20
6	-02	18



(1) Total utility of a commodity refers to the sum total of the utilities derived by a consumer from all units of commodity consumed. Marginal utility refers to the net addition made to the total utility by consuming one more unit of that commodity.

(2) Initially on the consumption of the first unit, the total utility is the minimum and the marginal utility is the maximum. From the consumption of second unit onwards, the total utility increases with a diminishing rate and the marginal utility diminishes.

(3) When the marginal utility is zero, the total utility is the maximum.

(4) When marginal utility becomes negative, total utility also starts diminishing.

(2) Explain the importance of law of DMU.

Ans. The importance of law of DMU can be explained with the help of the following points :

(1) **To the consumer** : Law of DMU guides the consumer in planning their budget so that they can achieve the maximum satisfaction from the given income.

(2) **To the government** : The law of DMU is helpful to the government in implementing economic policies such as progressive tax policy, trade policy, pricing policy, etc.

(3) **To explain paradox of value** : The law of DMU helps in explaining the paradox of value in use and value in exchange. The law of DMU explains how water has less price (value in exchange) though has more value in use. Similarly the law also explains how diamond has more price (value in exchange) though has less value in use.

(4) **Basis of law of demand** : The law of demand is based on the law of DMU. Initially, due to more intensity of want, the consumer derives more marginal utility from the initial units of consumption

of a commodity. Therefore consumer readily pays more prices for the initial units of a commodity. As consumer consumes further units of a commodity in quick succession, the intensity of want decreases and so consumer derives less marginal utility from the further units of consumption of a commodity. Therefore consumer demands further units of consumption of a commodity, only if they are available at comparatively lower prices.

(3) Explain the types of utility.

Ans. The types of utility are as follows :

(1) Form Utility : Utility increased by changing the shape, size, colour, etc. of a commodity is called form utility. It refers to changing the structure of an existing material to another structure, which is more useful. For example, transforming a log of wood into table and chair.

(2) Place Utility : Utility increased by changing the place of utilization of a commodity is called place utility. It refers to transporting commodity from one place where it is available in plenty to another place where it is in scarcity. For example, grapes of Nashik are brought to Mumbai.

(3) Service Utility : Utility obtained from the services of professional is called service utility. For example, a utility obtained from the services of teachers, doctors, chartered accountants, etc.

(4) Knowledge Utility : Utility obtained from acquiring knowledge is called knowledge utility. For example, after completion of training, a person finds more utility in computers.

(5) Possession Utility : Utility obtained from transfer of ownership rights of goods from one person to another, is called possession utility. For example, consumers find more utility in food grains, when they actually purchase those food grains from a retailer.

(6) Time Utility : Utility increased by changing the time of utilization of a commodity is called time utility. It refers mainly to storage of a product and to use it during the time of need or scarcity. For example, selling preserved crops at high prices during their scarcity.

(Note : Any 4 points are expected.)

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

(1) There are no real exceptions to the law of DMU.

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 11

(3) Answer the following questions in detail.

(Note : Any three points are expected in answer.)

*** (2) When MU is zero, TU diminishes.**

Ans. No, I disagree with this statement.

Reasons :

(1) When MU is zero, total utility is the maximum. This point is considered as the point of satiety.

(2)

Units of Consumption	Marginal Utility (MU)	Total Utility (TU)
1	08	08
2	06	14
3	04	18
4	02	20
5	00	20
6	-02	18

From the above table it can be seen that when at 5th unit, the marginal utility is zero and total utility is the maximum, i.e. 20.

(3) Further, only when the marginal utility diminishes from zero to -02, then only the total utility diminishes from 20 to 18.

Thus, when MU is zero, TU does not diminish, but remains the maximum.

(3) Law of DMU is important in practice.

Ans. Yes, I agree with this statement.

Reasons :

(1) The law of DMU helps consumers in deriving the maximum satisfaction from the given income.

(2) The law of DMU is helpful to the government in implementing economic policies such as progressive tax policy, trade policy, pricing policy, etc.

(3) The law of DMU is also helpful in explaining the paradox of value and serves as a basis for law of demand.

Thus, law of DMU is important in practice.

(4) The law of DMU is based on various assumptions.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 11 (2).

(Note : Any 3 points are expected in the answer.)

(5) There is no relationship between Marginal Utility and Total Utility.

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 8 (1).

*** 10 Observe the given table and answer the questions : (8 Marks each)**

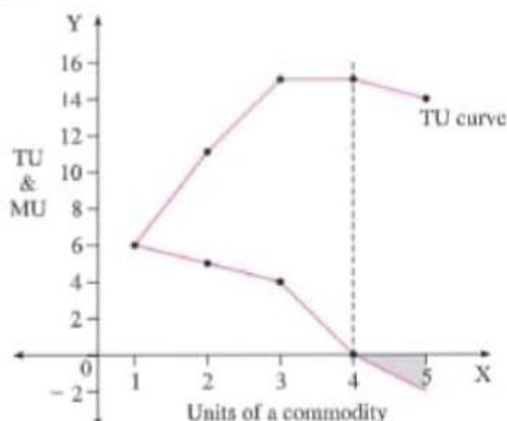
Units of Commodity	TU Units	MU Units
1	06	06
2	11	05
3	15	04
4	15	00
5	14	-01

(1) Draw total utility curve and marginal utility curve.

(2) (a) When total utility is maximum marginal utility is .

(b) When total utility falls, marginal utility becomes .

Ans. (1)



(2) (a) Zero (b) Negative

11 Answer the following questions in detail : (1 Mark each)

(1) State and explain the law of DMU.

Ans. The law of DMU can be explained with the help of the following points :

(1) The law of DMU was first proposed by Mr. Gossen. However, this law was further explained by Dr. Alfred Marshall in his famous book, 'Principles of Economics' in 1890.

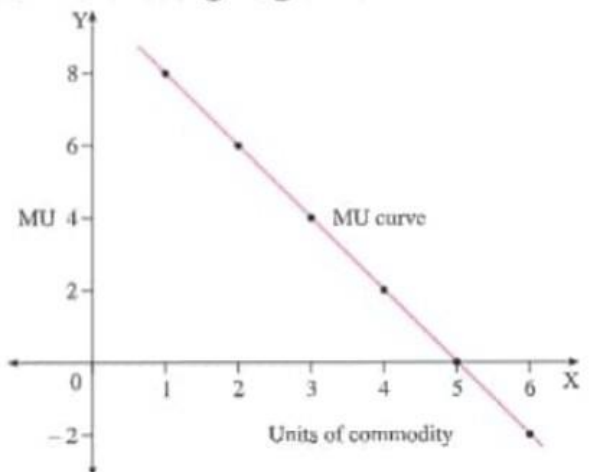
(2) **Statement of Law :** According to **Dr. Alfred Marshall**, "Other things being equal, the additional benefit which a person derives from the increase in the stock of a thing diminishes with every increase in the stock that he already has."

(3) The law of DMU can be explained with the help of the following schedule :

Unit of a Commodity	MU
1	08
2	06
3	04
4	02
5	00
6	-02

(4) From the schedule, it can be seen that as the stock of commodity increases from 1 to 6, the marginal utility diminishes from 8 to -02.

(5) The law of DMU can be explained with the help of the following diagram :



(6) In the diagram, the Y-axis represents the marginal utility and the X-axis represents the units of consumption. It can be seen that, the consumer derives the maximum utility from the first unit of

the consumption. As consumer keeps consuming the further units, the marginal utility keeps falling.

(7) On the consumption of the 5th unit, the marginal utility becomes zero. Therefore on the consumption of 5th unit, the marginal utility curve touches the X-axis. At this point the total utility is maximum. Therefore, this point is called the point of satiety.

(8) On the consumption of the 6th unit, the marginal utility becomes negative. As its effect, the total utility also starts diminishing.

From beginning to end, the marginal utility curve slopes downwards from the left to the right.

(2) Explain the assumptions of the law of DMU.

Ans. The assumptions of the law of DMU are as follows :

(1) **Rationality** : The law of DMU assumes that a consumer is a rational person and his behaviour is normal. The law assumes that a rational consumer wants to maximise his satisfaction.

(2) **Cardinal measurement** : The law of DMU assumes that utility can be measured in numbers. It also assumes that utility derived from each unit of a commodity can be compared.

(3) **Homogeneity** : The law of DMU assumes that units of a commodity consumed by a consumer are identical. It means all units of consumption of a commodity are perfectly uniform in respect of size, shape, taste, colour, quality, etc.

(4) **Continuity** : The law of DMU assumes that all units of consumption are consumed in quick succession, one after another. Thus law assumes that there is no time gap between the consumption of any two units.

(5) **Reasonability** : The law of DMU assumes that the size of unit of commodity of consumption is neither too small nor too big. Thus the law assumes that the size of unit of commodity of consumption is reasonable.

(6) **Constancy** : The law assumes that income, taste, habits, preferences, likings, etc. of a consumer as well as the price of commodity remains constant.

(7) **Divisibility** : The law assumes that the commodity consumed by the consumer is divisible.

(8) **Single want** : The law of DMU assumes that the commodity is used to satisfy only a single want, i.e. a want of consumption. Thus law assumes that a commodity is not used for any other use except consumption.

(9) **Constant marginal utility of money** : The law assumes that when the consumer spends his income on a commodity, the utility of remaining money income remains the same as his total income.

(3) Explain the exceptions to the law of DMU.

Ans. There are no real exceptions for law of DMU. In the following some cases it is considered that the law of DMU is not valid :

(1) **Hobbies** : It is said that in case of certain hobbies such as collection of stamps, rare coins, etc. an individual derives more and more utility from every additional stamp or coin. It is also said that people who are fond of music derive more and more utility from every additional listening of music. It is also said that people who are fond of reading books derive more and more utility from every additional reading of book. But in fact as per the assumptions of homogeneity and continuity of the law of DMU, if an individual is asked to collect same type of stamp continuously or to listen same song continuously or to read the same book continuously, the marginal utility will fall and the law will become applicable.

(2) **Misers** : It is said that for a miser, the marginal utility of money increases with every increase in the stock of money. But the miser's behaviour is irrational. Thus he violates the rationality assumption of the law. Therefore misers are not real exception to the law.

(3) **Addictions** : It is said that, a drunkard derives more and more marginal utility from consumption of every additional unit of liquor. But the drunkard's behaviour is irrational. Thus he violates the rationality assumption of the law. Therefore, the drunkards are not real exception to the law.

(4) Power : It is said that a person derives more and more utility from every additional acquisition of power. But a person's lust for power is irrational. Thus, he violates the rationality assumption of the law. So power is not a real exception to the law.

(5) Money : It is said that a person derives more and more marginal utility with every additional unit of a money. But in fact the marginal utility of money also diminishes as its stock increases. For example, a poor person will get more marginal utility from a 5-rupee note, but a rich person will get less marginal utility from the same 5-rupee note.

Thus, in fact there are no real exceptions to the law of DMU. It has universal applicability.

*** (4) State and explain the law of DMU and explain its exceptions.**

Ans. [A] The law of DMU : (1) The law of DMU was first proposed by Mr. Gossen. However, this law was further explained by Dr. Alfred Marshall in his famous book, 'Principles of Economics' in 1890.

(2) Statement of Law : According to Dr. Alfred Marshall, "Other things being equal, the additional benefit which a person derives from the increase in the stock of a thing diminishes with every increase in the stock that he already has."

[B] Exceptions to the law of DMU : For the answer, refer to Q. 11 (3).

(5) State and explain the law of DMU. What are its limitations?

Ans. [A] The law of DMU : For the answer, refer to Q. 11 [4] (A).

(B) Limitations of the law of DMU :

(1) Unrealistic assumptions : The law of DMU is based on unrealistic assumptions such as homogeneity of units, continuity in consumption, rationality of consumer, etc. but it is different to fulfil all these conditions at a point of time.

(2) Cardinal measurement : The law of DMU wrongly assumes that utility can be measured in numbers, but in reality cardinal measurement of utility is not possible as utility is a psychological concept.

(3) Indivisible goods : The law is not applicable to bulky and indivisible goods like T.V., cars, houses, etc. as they are purchased in single unit at a time.

(4) Constant marginal utility of money : The law of DMU wrongly assumes that the marginal utility of money remains constant.

(5) A single want : The law of DMU wrongly assumes that a person wants to satisfy a single want at a time.

(6) Explain the relationship between Marginal Utility and Price.

Ans. The law of demand is based on the law of DMU. In order to understand how the law of demand is based on the law of DMU, it is necessary to understand the relationship between marginal utility and price first. To understand the relationship between marginal utility and price, it is essential to convert marginal utility in terms of price. Marginal utility in terms of price can be derived by assuming certain monetary value per unit of marginal utility. For example, one unit of Marginal Utility = 10 R. The relationship between marginal utility in terms of money and price can be explained with the help of the following schedule :

No. of Units	MU / Units of X	MU in Terms of Money 1 unit = 10	Market Price / Unit of X = 50	Comparison between MU and Price
1	10	100 (10 × 10 ₹)	50	100 MU > 50 ₹
2	08	80 (8 × 10 ₹)	50	80 MU > 50 ₹
3	07	70 (7 × 10 ₹)	50	70 MU > 50 ₹
4	05	50 (5 × 10 ₹)	50	50 MU > 50 ₹
5	03	30 (3 × 10 ₹)	50	30 MU > 50 ₹
6	01	10 (1 × 10 ₹)	50	10 MU > 50 ₹

(1) From the table, it can be seen that, initially due to greater intensity of want, for initial units of consumption (1st, 2nd and 3rd unit), marginal utility in terms of money is greater than the price paid. All these units of consumption will be demanded by a rational consumer.

(2) Units which a rational consumer is willing to buy (demand) and consume for which he has to pay less than the MU in terms of money are called as "Intra-marginal units" ($MU_x > P_x$).

(3) Due to continuity in consumption, at a certain point (At 4th unit) marginal utility in terms of money and price becomes equal. This is the state of consumer's equilibrium. At this point, the want of a rational consumer gets fully satisfied and therefore he stops demanding further units of consumption.

(4) Unit which a rational consumer is willing to buy (demand) and consume for which he has to pay equal to the MU in terms of price is called "Marginal unit". ($MU_x = P_x$)

(5) Beyond the state of consumer's equilibrium, if consumer continues to consume the further units of consumption (5th and 6th unit), MU in terms of money is less than the price paid. Therefore, all these units of consumption will not be demanded by a rational consumer.

(6) Units which a rational consumer is not willing to buy (demand) and consume for which he has to pay more than the MU in terms of money are called as "Extra-marginal units" ($MU_x < P_x$).

(7) From the schedule, it can be seen that, if consumer consumes various units of consumption of a commodity in quick succession, the marginal utility diminishes. Therefore, consumer is willing to buy initial units of consumption at comparatively higher price, but the further units of consumption only at a comparatively low price.

(8) Thus, the relationship between marginal utility and price paves way for law of demand.

(7) Explain the features or characteristics of utility.

Ans. The following are the important features or characteristics of utility :

(1) **Relative concept** : Utility changes from time to time and from place to place. For example, woollen clothes possess more utility during winter and less utility during summer. Similarly they possess more utility in Kashmir and less utility in Mumbai.

(2) **Subjective concept** : Utility gets influenced by person's likes, dislikes, habits, preferences, etc. Therefore utility changes from person to person. For example, a non-vegetarian finds utility in mutton, but the vegetarian does not find utility from it.

(3) **Ethically neutral concept** : The concept of utility is morally and ethically colourless. Utility never takes into account the concepts such as good or bad, moral or immoral, etc. For example, in economics, milk as well as wine possesses utility.

(4) **Utility differs from usefulness** : Commodity possessing utility may not always possess usefulness. Utility and usefulness are totally different concepts. For example, a harmful product like poison possesses utility but it does not possess usefulness.

(5) **Utility differs from pleasure** : A commodity possessing utility may not always provide pleasure to the consumer. Thus utility and pleasure are totally different concepts. For example, injection possesses utility, but its consumption does not give pleasure to the patient.

(6) **Utility differs from satisfaction** : Utility and satisfaction are totally different concepts. Utility is the starting point of consumption, whereas satisfaction is derived after consumption. For example, for a thirsty person a glass of water has utility. When he drinks that glass of water he derives satisfaction from it.

(7) Measurement of utility is hypothetical :

Utility is a psychological concept. It has no physical existence. Therefore it cannot be measured in numbers. Therefore, only hypothetical measurement of utility is possible.

(8) Utility is multipurpose :

A particular commodity can satisfy many wants of a particular individual or more than one individual at a time. For example, one individual can make use of electricity for operating washing machine, another individual can make use of electricity to operate air conditioning unit.

(9) Depends upon the intensity of want :

Utility has direct relation to intensity of want. Individual finds more utility in a commodity if his want is more intense and vice versa. For example, hungry individual finds more utility in food than a person who is not so hungry.

(10) It is the basis of demand :

Utility forms the basis for demand. Generally, an individual demands a commodity when it has utility for him. Unless a commodity provides utility, it is not demanded.

(Note : Any 8 points are expected in answer.)

* * *



DEMAND ANALYSIS

IMPORTANT CONCEPTS

- **Demand** : A desire which is backed by the ability to pay as well as the willingness to pay for a commodity is called demand.
- **Giffen Goods** : Goods of low quality are considered Giffen goods. Giffen goods are exception to the Law of Demand.

CHAPTER AT A GLANCE

1. Introduction :

(1) Utility is the basis of demand. Utility in a particular commodity creates a desire for that commodity.

(2) However, only an effective desire becomes demand. Demand analysis is concerned with the consumer behaviour.

2. Meaning of Demand :

(1) Ordinarily by demand we mean desire. But demand is different from desire.

(2) The willingness to have something is called desire. A desire that is backed by the ability to pay and the willingness to pay becomes desire.

(3) Thus, desire, purchasing power and willingness to pay are the three necessary conditions for demand.

(4) So, demand is an effective desire. All desires are not demand.

(5) In short, Demand = Desire + Willingness to Purchase + Ability to Pay.

3. Definition and Features of Demand :

(1) **Definition** : According to **Benham**, "the demand for anything at a given price is the amount of it, which will be bought per unit of time at that price."

(2) **Features** : Demand is (i) a relative concept. (ii) essentially expressed with reference to time and price.

4. Demand Schedule :

(1) Demand schedule is a tabular representation of the functional relationship between price and quantity demanded for a particular commodity.

(2) A demand schedule may be either individual demand schedule or market demand schedule.

5. Individual Demand Schedule :

(1) The total quantities of a commodity demanded by a particular buyer at different prices during a given period of time is individual demand.

(2) Individual demand schedule is a tabular representation of the total quantities of a commodity demanded by a particular buyer at different prices during a given period of time.

(3) Individual demand schedule indicates the inverse relationship between the price and the quantity demanded.

6. Individual Demand Curve :

(1) Individual demand curve is a graphical representation of individual demand schedule.

(2) Individual demand curve indicates the inverse relationship between the price and the quantity demanded. The individual demand curve slopes downward from left to right. Thus, individual demand curve has a negative slope.

7. Market Demand Schedule :

(1) The sum of the total quantities of a commodity demanded by all buyers at different prices during a given period of time is market demand.

(2) Market demand schedule is a tabular representation of the sum of the total quantities of a commodity demanded by all buyers at different prices during a given period of time.

(3) Market demand schedule indicates the inverse relationship between the price and the quantity demanded.

8. Market Demand Curve :

(1) Market demand curve is a graphical representation of market demand schedule.

(2) Market demand curve indicates the inverse relationship between the price and the quantity demanded. The market demand curve slopes downward from left to right. Thus, market demand curve has a negative slope.

9. Reasons Justifying Downward Sloping Demand Curve :

Law of diminishing marginal utility, income effect, substitution effect, multipurpose uses, new consumers, etc. are the reasons justifying downward sloping demand curve.

10. Types of demand :

The types of demand are explained in the following table :

Types of Demand	Explanation
1. Direct Demand	The demand for commodities and services satisfying human wants directly.
2. Indirect Demand	The demand for factors of production.
3. Joint Demand	The demand for two or more commodities that are demanded together to satisfy a single want.
4. Composite Demand	The demand for commodities that are used to satisfy several wants.
5. Competitive Demand	The demand for commodities that are substitute to each other.

11. Determinants of Demand :

The determinants of demand are explained in the following table :

Determinants of Demand	Explanation
1. Price	The most important determinant of demand. Price and demand are inversely related.
2. Income	Income and market demand are directly related. As income rises, demand increases and vice versa.
3. Price of substitute goods	The rise in price of a substitute goods increases the demand for a commodity in question and vice versa.
4. Price of complementary goods	The rise in price of a complementary goods decreases the demand for a commodity in question and vice versa.
5. Nature of product	If a commodity is a necessity, its demand remains unchanged irrespective of change in its price.
6. Size of population	Larger the size of population, greater will be the demand for a commodity and vice versa.
7. Expectations about the future prices	If the consumer expects a fall in price of a commodity in the near future, demand for a commodity in question falls and vice versa.
8. Advertisements	Attractive advertisements, sales promotion schemes and effective salesmanship lead to increase in demand for various goods and services.

9. Tastes, habits and fashions	Liking for a commodity or a fashion for a particular commodity increases its demand. Disliking or a commodity out of fashion decreases its demand.
10. Level of taxation	Increased tax level decreases demand for different goods and services and vice versa.
11. Other factors	Climatic conditions, change in technology, government policies, customs and traditions, etc. also affect demand.

12. Law of Demand :

(1) The Law of Demand is propounded by **Dr. Alfred Marshall** in his famous book, 'Principles of Economics'. According to Dr. Alfred Marshall, *"Other things being equal, the amount demanded rises with a fall in price, and diminishes with a rise in price."*

(2) The Law of Demand explains the inverse relationship between the price and the demand.

(3) Symbolically, the functional relationship between demand and price is expressed as :

$$D_x = f(P_x) \text{ where}$$

D = Demand for a commodity

x = Commodity

f = function of

P_x = Price of a commodity

13. Assumptions of Law of Demand :

The law of demand is based on the following some assumptions :

The law assumes that :

- (1) there is no change in consumer's income.
- (2) the size and composition of population remains constant.
- (3) the prices of substitute goods of a commodity in question remain constant.
- (4) the prices of complementary goods of a commodity in question remain constant.
- (5) consumers do not have any expectations regarding rise or fall in the price of a commodity in the near future.

(6) there is no change in tastes, habits, preferences, likings, etc. of the consumer.

(7) the government's taxation policy remains constant.

14. Exceptions to the Law of Demand :

The exceptions to the law of demand are explained with the help of the following table :

Exceptions to the Law of Demand	Explanation
1. Giffen goods	A fall in the prices of Giffen goods lead to fall in their demand.
2. Prestige goods	A rise in the prices of prestige goods lead to rise in their demand.
3. Speculation	If the consumer expects a fall in price of a commodity in near future, demand for a commodity in question falls and vice versa.
4. Price illusion	Due to wrong belief that high priced goods are of better quality, costlier goods are demanded in greater quantities.
5. Ignorance	Due to lack of complete knowledge of a market, demand is found to be more at a higher price.
6. Habitual goods	The prices of habitual goods remain constant, though their prices change.

15. Variation in Demand :

Meaning : Other factors remaining constant, the rise or fall in the demand due to the change in the price of a commodity, is called variation in demand. Variation in demand is of the following two types :

(1) Expansion in Demand : Other factors remaining constant, a rise in demand due to a fall in the price of a commodity, is called expansion in demand.

(2) Contraction in Demand : Other factors remaining constant, a fall in the demand due to a rise in the price of a commodity, is called contraction in demand.

16. Change in Demand :

Meaning : Price remaining constant, the rise or fall in demand due to the change in the other factors is called change in demand. Change in demand is of the following two types :

(1) Increase in Demand : Price remaining constant, a rise in demand caused due to favourable changes in the other factors, is called increase in demand.

(2) Decrease in Demand : Price remaining constant, a fall in the demand caused due to unfavourable changes in the other factors is called decrease in demand.

EXERCISE

1 Complete the following statements by choosing the correct alternatives :

(1 Mark each)

[1]

- * (1) The relationship between demand for a good and price of its substitute is
 (a) direct (b) inverse
 (c) no effect (d) can be direct and inverse
- * (2) The relationship between income and demand for inferior goods is
 (a) direct (b) inverse
 (c) no effect (d) can be direct and inverse
- * (3) Symbolically, the functional relationship between demand and price can be expressed on
 (a) $D_x = f(P_x)$ (b) $D_x = f(P_y)$
 (c) $D_x = f(y)$ (d) $D_x = f(T)$
- * (4) When less units are demanded at high price it shows
 (a) increase in demand
 (b) expansion of demand
 (c) decrease in demand
 (d) contraction in demand
- (5) Demand for pen and ink is
 (a) competitive (b) indirect
 (c) complementary (d) composite

Ans. (1) The relationship between demand for a good and price of its substitute is direct.

(2) The relationship between income and demand for inferior goods is inverse.

(3) Symbolically, the functional relationship between demand and price can be expressed on $D_x = f(P_x)$.

(4) When less units are demanded at high price it shows contraction in demand.

(5) Demand for pen and ink is complementary.

[2]

- (1) When price of commodity falls, the demand for it
 (a) increases (b) contracts
 (c) remains constant (d) expands
- (2) When less is purchased at the constant prices, it is called in demand.
 (a) increase (b) decrease
 (c) expansion (d) contraction
- (3) When the price of petrol goes up, demand of cars will
 (a) rise (b) fall
 (c) not change (d) remain unchanged
- (4) Market demand is an aggregate of purchasing by buyers.
 (a) some (b) all (c) one (d) two
- (5) Indirect demand is also known as demand.
 (a) derived (b) direct
 (c) composite (d) joint

Ans. (1) When price of commodity falls, the demand for it expands.

(2) When less is purchased at the constant prices, it is called decrease in demand.

(3) When the price of petrol goes up, demand of cars will fall.

(4) Market demand is an aggregate of purchasing by all buyers.

(5) Indirect demand is also known as derived demand.

2 Find the odd word : (1 Mark each)

- (1) Notebook, Pen, Fan, Labour
- (2) Gold, Diamond, Bungalow, Sugar
- (3) Ruler-Scale, Pencil, Wheat, Paper
- (4) Land, Labour, Capital, Clothes
- (5) Medicine, Cold Drinks, Magazine, Perfume

Ans. (1) Labour (2) Sugar (3) Wheat (4) Clothes
(5) Medicine.

3 Complete the correlation : (1 Mark each)

- (1) Capital : Derived demand : : Umbrella :
- (2) Less price : Expansion of demand : : : Contraction of demand.
- (3) Increased taxes : Decreased in demand : : Concessions in taxes :
- (4) Salt : Necessary good : : Diamond :
- (5) No change in population : Assumption of the law of demand : : Ignorance :

Ans. (1) Direct demand (2) More price
(3) Increase in demand (4) Prestige good
(5) Exception to the law of demand.

2 Give economic terms : (1 Mark each)

* [1]

- (1) A situation where more quantity is demanded at lower price.
- (2) Graphical representation of demand schedule.
- (3) A commodity which can be put to several uses.
- (4) More quantity is demanded due to changes in the factors determining demand other than price.
- (5) A desire which is backed by willingness, purchase and ability to pay.

Ans. (1) Expansion of demand (2) Demand curve (3) Multipurpose commodity (4) Increase in demand (5) Demand.

[2]

- (1) Other things being equal, rise or fall in demand due to change in price of the commodity.
- (2) Inferior goods.
- (3) Demand for factors of production.
- (4) Demand for sugar and jaggery.
- (5) Demand for water.

Ans. (1) Variation in demand (2) Giffen's goods
(3) Derived demand (4) Competitive demand
(5) Composite demand.

5 Identify and explain the concepts from the given illustrations : (1 Mark each)

(1) Due to the floods in the village, the demand for various commodities declined even though prices remained constant.

Ans. [A] Identified concept : Decrease in demand.

[B] Explanation of concept : A fall in a demand caused by unfavourable changes in other factors other than price is called decrease in demand.

(2) Due to the government's computerization policy, the demand for computers rose despite prices of computers remained constant.

Ans. [A] Identified concept : Increase in demand.

[B] Explanation of concept : A rise in demand caused by favourable changes in other factors than price is called increase in demand.

(3) As ice cream of ₹ 50 was available at ₹ 40, Ramesh demanded four ice creams instead of three.

Ans. [A] Identified concept : Expansion in demand.

[B] Explanation of concept : Other factors remaining constant, a rise in demand due to a fall in price is called expansion in demand.

(4) Due to the rise in prices of mango, Sheetal demanded only three dozen mangoes instead of five dozen.

Ans. [A] Identified concept : Contraction in demand.

[B] Explanation of concept : Other factors remaining constant, a fall in demand due to a rise in price is called contraction in demand.

(5) Vijay, who is fond of gardening, demanded earthen pot, manure and seedlings together.

Ans. [A] Identified concept : Joint demand.

[B] Explanation of concept : When two or more commodities are demanded together to satisfy a single want, are said to have a joint demand.

6 Distinguish between the following :**(2 Marks each)***** (1) Desire and Demand :****Ans.**

Desire	Demand
1. Meaning	
Desire refers to a mere wish of a person to have a particular commodity.	Demand refers to a desire backed by the ability to pay and the willingness to pay for a particular commodity.
2. Relation with price, place and time	
Desire has no relation with price, place and time.	Demand has relation with price, place and time.

*** (2) Increase in Demand and Decrease in Demand :****Ans.**

Increase in Demand	Decrease in Demand
1. Meaning	
A rise in demand caused by favourable changes in other factors than price is called increase in demand.	A fall in demand caused by unfavourable changes in other factors other than price is called decrease in demand.
2. Causes	
Increase in demand is caused by : (1) Rise in income (2) Increased liking for a commodity (3) Decrease in taxes	Decrease in demand is caused by : (1) Fall in income (2) Decreased liking for a commodity (3) Increase in taxes

*** (3) Expansion in Demand and Contraction in Demand :****Ans.**

Expansion in Demand	Contraction in Demand
1. Meaning	
Other factors remaining constant, a rise in demand due to a fall in price is called expansion in demand.	Other factors remaining constant, a fall in demand due to a rise in price is called contraction in demand.
2. Movement in equilibrium point	
In expansion in demand, equilibrium point of price and demand moves downward from the left to the right on the same demand curve.	In contraction in demand, equilibrium point of price and demand moves upward from the right to the left on the same demand curve.

(4) Individual Demand and Market Demand :**Ans.****Individual Demand****Market Demand****1. Meaning**

Individual demand is the demand by a single consumer in a market for a given commodity at a given price and time.

Market demand is the demand by all consumers in a market for a given commodity at a given price and time.

2. Interrelation

Individual demand is always less than market demand.

Market demand is always greater than individual demand.

(5) Inferior Goods and Superior Goods :**Ans.****Inferior Goods****Superior Goods****1. Meaning**

Goods of low quality are considered inferior goods.

Goods of high quality are considered superior goods.

2. Consumers

Inferior goods are generally consumed by poor people.

Superior goods are generally consumed by upper middle class people and rich people.

(6) Direct Demand and Indirect Demand :**Ans.****Direct Demand****Indirect Demand****1. Meaning**

The demand for commodities and services satisfying the human wants directly is said to be direct demand.

The demand for commodities and services satisfying the human wants indirectly is said to be indirect demand.

2. Nature

Direct demand is conventional in nature. For example, demand for consumer goods like clothes, furniture, etc.

Indirect demand is derived in nature. For example, demand for capital goods like equipment, tools, etc.

(7) Expansion of Demand and Increase in Demand :**Ans.****Expansion of Demand****Increase in Demand****1. Meaning**

Other factors remaining constant, a rise in demand due to a fall in price is called expansion of demand.

Price remaining constant, a rise in demand due to favourable changes in other factors is called increase in demand.

2. Equilibrium Point

In expansion of demand, equilibrium point of price and demand moves downward from the left to the right on the same demand curve.

In increase in demand, equilibrium point of price and demand shifts from the left to the right on the new demand curve.

7 Answer the following : (1 Mark each)

(1) What do you mean by demand?

Ans. (1) A desire which is backed by the ability to pay as well as the willingness to pay for a commodity is demand.

(2) Symbolically,

Demand = Desire + Ability to pay + Willingness to pay.

(3) Demand is a relative concept and utility is the base of demand.

(4) Demand is that quantity of a commodity which a person is ready to buy at a particular price and during a specific period of time. Thus, reference of price and time is necessary for demand.

(2) What are the assumptions of the Law of Demand?

Ans. For the answer, refer to Q. 10 (2) in Answer the following questions in detail.

(3) Explain variation in demand.

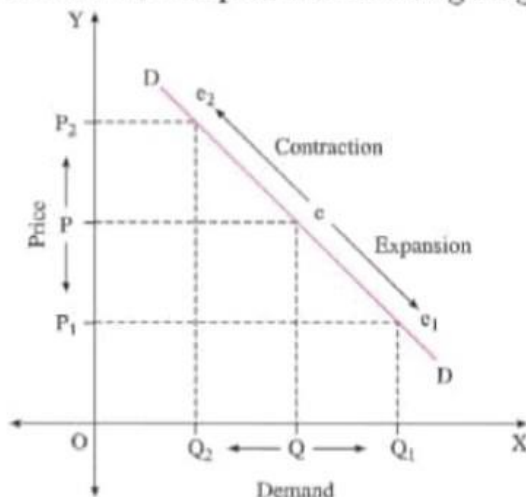
Ans. Variation in demand can be explained with the help of the following points :

(1) **Meaning** : Other factors remaining constant, a rise or fall in demand due to the change in the price of a commodity, is called variation in demand. Variation in demand is of the following two types :

(2) **Expansion in Demand** : Other factors remaining constant, a rise in demand due to fall in the price of a commodity, is called expansion in demand.

(3) **Contraction in Demand** : Other factors remaining constant, a fall in demand due to a rise in the price of a commodity, is called contraction in demand.

(4) **Diagram** : Variation in demand can be explained with the help of the following diagram :



From the given diagram, it can be seen that, other things being equal, as price falls from OP to OP₁, demand rises from OQ to OQ₁. This rise in demand is called expansion in demand. In expansion in demand, the equilibrium point of price and demand moves downwards from the left to the right (e to e₁) on the same demand curve.

On the other hand, as price rises from OP to OP₂, demand falls from OQ to OQ₂. This fall in demand is called contraction in demand. In contraction in demand, the equilibrium point of price and demand moves upwards from the right to the left (e to e₂) on the same demand curve.

(4) Explain change in demand.

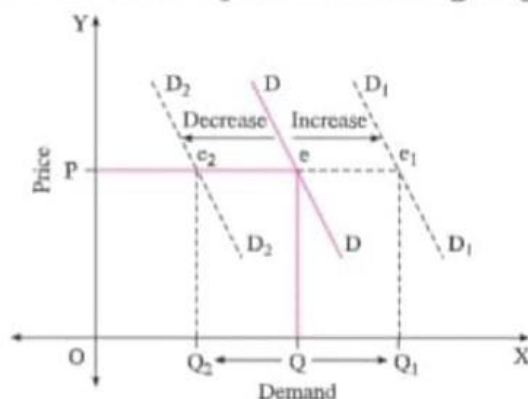
Ans. Change in demand can be explained with the help of the following points :

(1) **Meaning** : Price remaining constant, a rise or fall in demand due to the change in the other factors, is called change in demand. Change in demand is of the following two types :

(2) **Increase in Demand** : Price remaining constant, a rise in demand due to favourable changes in other factors, is called increase in demand.

(3) **Decrease in Demand** : Price remaining constant, a fall in the demand due to unfavourable changes in other factors is called decrease in demand.

(4) **Diagram** : Change in demand can be explained with the help of the following diagram :



From the above diagram, it can be seen that price remaining equal, i.e. OP due to favourable changes in other factors, demand rises from OQ to OQ₁. This rise in demand is called as increase in demand. In increase in demand, demand curve shifts to the right of the original demand curve

and the equilibrium point of price and demand shifts from the left to the right (e to e_1) on the new demand curve.

On the other hand, price remaining equal, i.e. OP due to unfavourable changes in other factors, demand falls from OQ to OQ₂. This fall in demand is called as decrease in demand. In decrease in demand, demand curve shifts to the left of the original demand curve and the equilibrium point of price and demand shifts from the right to the left (e to e_2) on the new demand curve.

(5) Explain the types of demand.

Ans. The types of demand are as follows :

(1) Direct Demand : Commodities and services satisfying the human wants directly are said to have direct demand. Direct demand is also called conventional demand. For example, demand for clothes.

(2) Indirect Demand : Commodities and services satisfying human wants indirectly are said to have indirect demand. Indirect demand is also called derived demand. For example, demand for the factors of production.

(3) Joint demand : Two or more commodities that are demanded together to satisfy a single want are said to have joint demand. Complementary commodities have joint demand. For example, demand for needle and thread.

(4) Composite Demand : Commodities that are used to satisfy several wants are said to have composite demand. For example, demand for electricity.

(5) Competitive Demand : Commodities that are substitutes for each other are said to have competitive demand. For example, demand for tea and coffee.

(Note : Any four points are expected in answer)

(6) Why does the demand curve slope downward?

Ans. The demand curve slopes downward due to the following reasons :

(1) Law of diminishing marginal utility : Marginal utility of a commodity goes on diminishing with an increase in stock of commodity and vice versa. Therefore, consumers tend to buy more units

of a particular commodity only if further units are available at comparatively low price.

(2) Income effect : If price of a normal good falls, the purchasing power (i.e. real income) of a consumer increases. This enables a consumer to buy more of that normal good. This is known as income effect.

(3) Substitution effect : When price of a particular commodity rises, the consumer buys more of its substitute (which is available at comparatively low price) and less of the commodity whose price has increased. This is known as substitution effect.

(4) Multipurpose uses : When a commodity has multipurpose uses, it is demanded for limited purposes if its price is high. On the other hand, if its price is low, it is demanded for several purposes.

(5) New consumers : With a fall in price of a commodity, the existing buyers demand more of a commodity. Similarly, new consumer class who can now afford the commodity also demand a commodity.

8 State with reasons whether you agree or disagree with the following sentences :

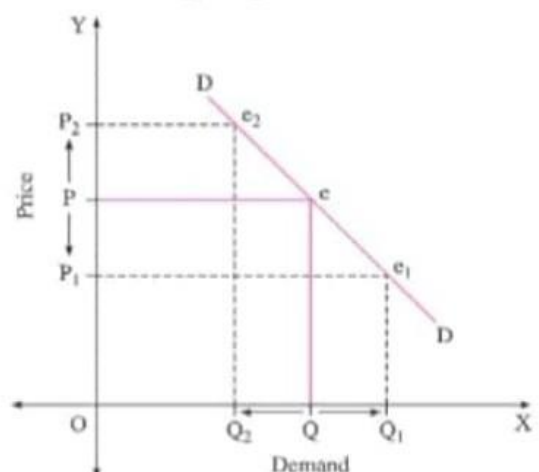
(4 Marks each)

*** (1) Demand curve slopes downward from left to right.**

Ans. Yes, I agree with this statement.

Reasons : (1) According to the Law of Demand propounded by Dr. Alfred Marshall, "Other things being equal as price falls demand tends to rise and as price rises demand tends to fall."

(2) This statement can be explained with the help of the following diagram :



From the above diagram it can be seen that as price rises from OP to OP₂, demand falls from OQ to OQ₂. Similarly, as price falls from OP to OP₁, demand rises from OQ to OQ₁. Demand curve, i.e. DD indicates the inverse relationship between the price and the quantity demanded of a commodity.

(3) Diminishing marginal utility, income effect, substitution effect, multipurpose uses, new consumers, etc. are the reasons for demand curve sloping downward from left to right.

Thus, demand curve slopes downward from left to right.

(2) There are no exceptions to the Law of Demand.

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 10 (3) in Answer the following questions in detail.

(Note : Any three points are expected in answer.)

*** (3) Price is the only determinant of demand.**

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 10 (6) in Answer the following questions in detail.

(Note : Any three points are expected in answer.)

*** (4) When price of Giffen goods falls, the demand for it increases.**

Ans. No, I disagree with this statement.

Reasons : (1) Sir Robert Giffen from England noticed that in the case of inferior quality products (Giffen goods), the Law of Demand does not hold good. When the price of Giffen goods falls, buyer's real income gets increased. As its effect, they demand more of superior quality goods.

(2) For example, when the price of *vanaspathi ghee* falls, (its demand remains less), the demand for pure ghee rises.

(3) Thus, fall in prices of Giffen goods leads to fall in their demand. Therefore Giffen goods are considered as exception to the Law of Demand. This phenomenon is known as Giffen's paradox.

Thus, when price of Giffen goods falls, the demand for it does not increase but decreases.

*** 9 Observe the given table / diagram and answer the questions : (4 Marks each)**

(1) Observe the following table and answer the following questions :

Price Per Kg ₹	Quantity Demanded			Market Demand
	Consumer A	Consumer B	Consumer C	In Kg (A + B + C)
25	16	15	12	
30	12	11	10	
35	10	09	08	
40	08	06	04	

Questions :

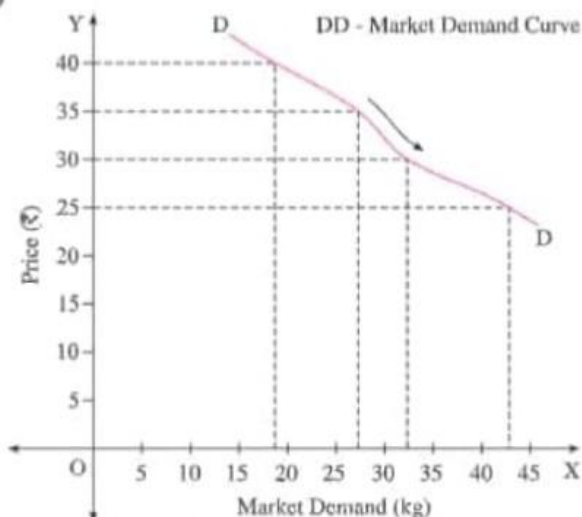
(1) Complete the market demand schedule.

(2) Draw market demand curve based on above market demand schedule.

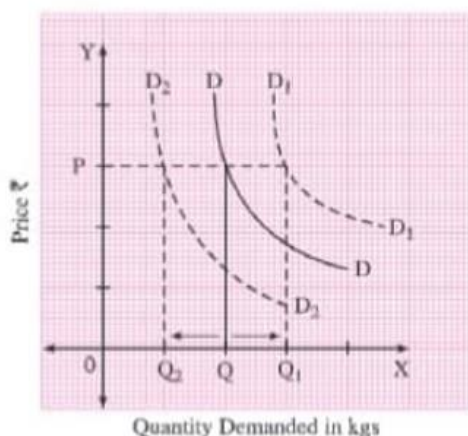
Ans. (1)

Price Per Kg ₹	Quantity Demanded			Market Demand
	Consumer A	Consumer B	Consumer C	In Kg (A + B + C)
25	16	15	12	43
30	12	11	10	33
35	10	09	08	27
40	08	06	04	18

(2)



(2) Observe the given diagram and answer the following questions :



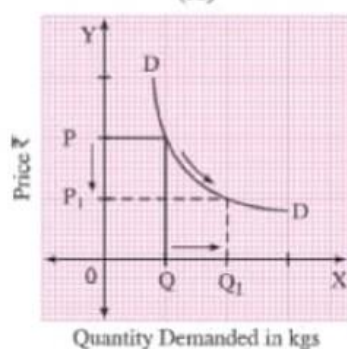
Questions :

- (1) Rightward shift in demand curve.
- (2) Leftward shift in demand curve.
- (3) Price remains.
- (4) Increase and decrease in demand comes under.

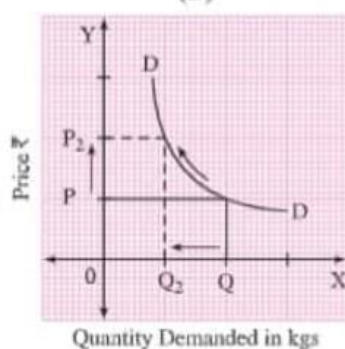
Ans. (1) Increase in demand (2) Decrease in demand (3) OP (4) Change in demand.

(3) Explain the diagrams :

(A)



(B)



(A)	(B)
(1) Diagram A represents in demand.	(1) Diagram B represents in demand.
(2) In diagram A movement of demand curve is in direction	(2) In diagram B movement of demand curve is in direction

Ans.

(A)	(B)
(1) Diagram A represents <u>expansion</u> in demand.	(1) Diagram B represents <u>contraction</u> in demand.
(2) In diagram A movement of demand curve is in <u>downward (from left to right)</u> direction	(2) In diagram B movement of demand curve is in <u>upward (from right to left)</u> direction

**10 Answer the following questions in detail :
(8 Marks each)**

(1) State and explain the Law of Demand.

Ans. The Law of Demand can be stated and explained with the help of the following points :

(1) **Law of Demand :** The Law of Demand is one of the fundamental laws of consumption. It was propounded by Dr. Alfred Marshall in his famous book, 'Principles of Economics'. The Law of Demand explains the inverse relationship between the price and the quantity demanded.

(2) **Statement of Law :** "Other things being equal, the amount demanded rises with a fall in price; and diminishes with a rise in price."

(3) **Symbolical Representation :** The law of demand is expressed symbolically as follows :

$$D_x = f(P_x)$$

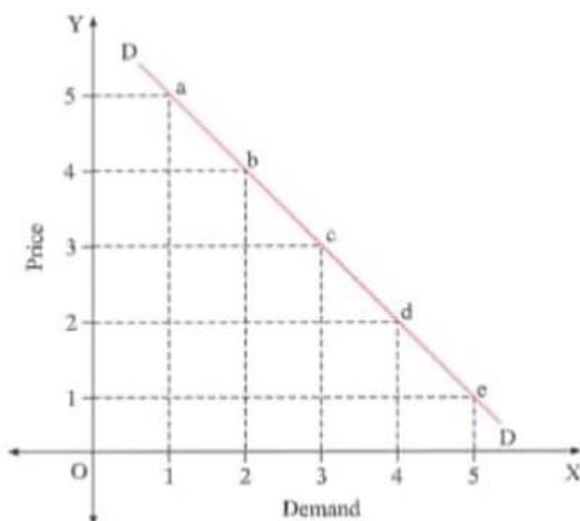
Where, D_x stands for demand for a commodity x , f stands for function of, P_x stands for the price of the commodity x .

(4) Individual Demand Schedule : The Law of Demand is explained in the following individual demand schedule :

Price (₹) of commodity x	Individual Demand of Commodity x (per day in units)
1	5
2	4
3	3
4	2
5	1

(5) Explanation of Individual Demand Schedule : From the above individual demand schedule it can be observed that at a lesser price (₹ 1) more units of commodity x are demanded (5 units). Similarly at a higher price (₹ 5) less units of commodity x are demanded (1 unit). Thus, there exists an inverse relationship between the price and the quantity demanded.

(6) Individual Demand Curve : The Law of Demand can be explained with the help of the following diagram of the individual demand curve :



(7) Explanation of Individual Demand Curve : In the above diagram, Y-axis represents the price of the commodity x and X-axis represents demand of commodity x. From the above diagram it can be seen that the demand curve, i.e. DD slopes downwards from the left to the right. Price and demand are inversely related to each other. Therefore, the demand curve has negative slope.

(2) Explain the assumptions to the Law of Demand.

Ans. The following are the assumptions to the Law of Demand :

(1) Constant level of income : If there is rise in the income of a consumer, demand for different goods and services tends to rise even at a higher prices. In that case, the law becomes inapplicable. Therefore, to prove the law, it is assumed that there is no change in consumer's income.

(2) No change in the size of population : Due to a rise in the size of population, the demand for all goods and services tends to rise at their constant prices. In such a situation, the Law of Demand becomes inapplicable. Therefore, to prove the validity of the law, it is assumed that the size and the composition of population remain constant.

(3) No change in prices of substitute goods : Due to the availability of cheaper substitute goods, the demand for a commodity in question tends to fall at its existing price and vice versa. Therefore, the law assumes that there is no change in the prices of substitute goods of a commodity in question.

(4) No change in prices of complementary goods : If the prices of complementary goods rise, the demand for a commodity in question tends to fall at its existing price and vice versa. Therefore, the law assumes that there is no change in the prices of complementary goods of a commodity in question.

(5) No expectations regarding future price : If a consumer anticipates a fall in price of the commodity in the near future, the demand for the commodity in question falls at the present price and vice versa. Therefore, the law assumes that consumers do not have any expectations regarding rise or fall in the price of a commodity in the near future.

(6) No change in tastes, habits, fashions : If consumer's liking for a particular commodity increases, then the demand for such a commodity tends to rise even at a higher price and vice versa.

In such circumstances, the Law of Demand does not hold good. Therefore, to maintain the validity of the law, it is assumed that there is no change in tastes, habits, preferences of the consumer.

(7) No change in government policy : Rise in the taxes leads to decrease in the disposable income of the consumer. This in turn decreases the demand for goods and services at their current prices and vice versa. Therefore, to prove the law, it is assumed that there is no change in government's taxation policy.

(3) What are the exceptions to the Law of Demand.

Ans. The following are the exceptions to the Law of Demand :

(1) Giffen goods : Sir Robert Giffen from England noticed that in the case of inferior quality products (Giffen goods), the Law of Demand does not hold good. When the price of Giffen goods falls, buyers' real income gets increased. As its effect, buyers demand more of superior quality goods. Thus, a fall in the prices of Giffen goods leads to fall in their demand. For example, as the price of bread falls, people demand less of bread and more of meat.

(2) Prestige goods : Diamonds, luxury cars, posh bungalows, etc. are considered as prestige goods. Such goods have a snob appeal. Therefore, prestige goods are demanded in greater quantities at higher prices and vice versa.

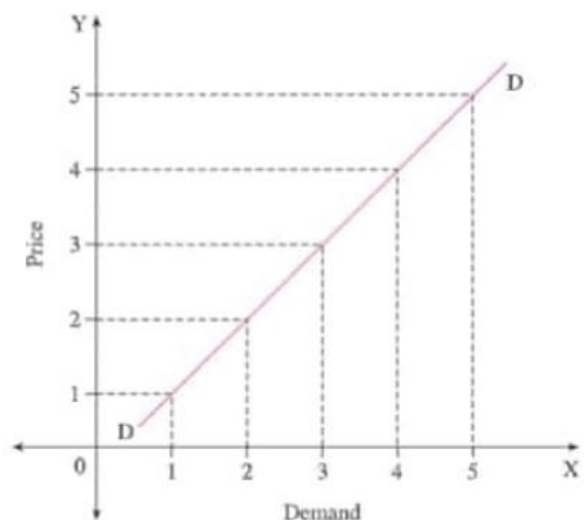
(3) Speculation : Some consumers anticipate a fall in the price of a commodity in the near future, so the demand for the commodity in question falls at the present price. Similarly, some consumers anticipate a rise in the price of the commodity in the near future, so the demand for the commodity in question rises at the present price.

(4) Price illusions : Many consumers wrongly assume that high priced goods are of better quality. Due to this illusion, such buyers demand costlier goods in greater quantities.

(5) Ignorance : Many times the buyers do not have a complete knowledge of a market. Due to such ignorance, they demand costlier goods in greater quantities.

(6) Habitual goods : Certain goods like tobacco, cigarettes, etc. are consumed due to the habits. Therefore, demand of such goods remains constant even if their prices change.

In all these cases, the Law of Demand becomes inapplicable. Therefore, they are considered as exceptions to the Law of Demand. The exceptions to the Law of Demand can be explained with the help of the following diagram :



In the diagram, Y-axis represents the price of a commodity and X-axis represents the demand of commodity x. From the diagram, it can be seen that the exceptional demand curve, i.e. DD slopes upwards from the left to the right. In exceptional cases the price and demand are directly related to each other. Therefore, the exceptional demand curve has a positive slope.

(4) State the Law of Demand. What are the assumptions to the Law of Demand?

Ans. (A) Statement of the Law of Demand : According to Dr. Alfred Marshall, "Other things being equal, the amount demanded rises with a fall in price; and diminishes with a rise in price."

(B) Assumptions : For assumptions, Refer to Q. 10 (2).

(Note : Any six points are expected in answer.)

*** (5) State and explain the Law of Demand with exceptions.**

Ans. (A) Statement of the Law of Demand :

For the statement of the Law of Demand, refer to Q. 10 (4).

(B) Exceptions : *For exceptions, refer to*

Q. 10 (3).

*** (6) Explain the determinants of demand.**

Ans. The determinants of demand are as follows :

(1) Price : Price is one of the most important factors that affect market demand. Usually, larger quantity is demanded at a lower price and vice versa.

(2) Income : Income is yet another important factor that affects market demand. Income affects the purchasing power of a consumer. Income and demand are directly related to each other. Normally, demand rises with increasing income and vice versa.

(3) Prices of Substitute Goods : Market demand also gets influenced by the prices of substitutes. If a substitute is available at a lower price, people demand the substitute goods in greater quantities than the commodity in question. For example, if the price of tea falls, demand for coffee tends to fall.

(4) Prices of Complementary Goods : Market demand also gets affected by the prices of complementary goods. If the price of a complementary good rises, the demand of the commodity in question tends to fall. For example, if the price of petrol rises, demand for cars tends to fall.

(5) Nature of products : If a commodity is a necessity and its use is unavailable, then its demand will continue to be the same irrespective of change in its price. For example, demand for salt, medicines, etc. Thus, nature of commodity determines the demand.

(6) Size of Population : Demand for various goods and services gets affected by the size as well as the composition of population. An increase in population leads to an increase in demand for a variety of goods and services. On the other hand, decrease in population leads to decrease in demand for a variety of goods and services.

(7) Expectations about future prices : Expectations about future prices also determines the demand. For example, if consumers expect fall in the price of a particular commodity in the near future, they will demand less quantities of such commodity though its present price is comparatively less and vice versa.

(8) Advertisements : Nowadays, the market demand for goods and services gets highly influenced by advertisements and other promotional activities. Attractive advertisements, sales promotion schemes and effective salesmanship lead to increase in demand for various goods and services. For example, demand for toothbrush, cosmetics, etc.

(9) Tastes, Habits and Fashions : Some factors such as taste, habit of consumers, etc. also determine the demand. For example, an increased liking for cold drinks, ice creams, etc. increases their demand. Similarly, commodities in fashion have more demand and the commodities out of fashion have less demand.

(10) Level of Taxation : Government's taxation policy also affects demand. For example, a rise in tax level reduces the consumer's disposable income and it in turn decreases the demand for different goods and services and vice versa.

(11) Other Factors : Climatic conditions (Flood, Drought, Earthquake), change in technology, government policies, customs and traditions, etc. Other factors also affect demand for various goods and services.

(Note : Any eight points are expected in answer.)

ELASTICITY OF DEMAND

IMPORTANT CONCEPTS

- **Elasticity of Demand** : The elasticity of demand can be defined as the responsiveness of a quantity demanded of a commodity to a change in its price, income of the consumer or the prices of other goods.
- **Income Elasticity of Demand** : Income elasticity of demand can be defined as the percentage change in the quantity demanded of a commodity in response to a given change in the income of the consumer.
- **Cross Elasticity of Demand** : Cross elasticity of demand can be defined as the percentage change in the quantity demanded of one commodity (say 'x') in response to a given change in the price of another (substitute/complementary/unrelated) commodity (say 'y').
- **Price Elasticity of Demand** : Price elasticity of demand can be defined as the percentage change in the quantity demanded of a commodity in response to a given change in its price.

CHAPTER AT A GLANCE

1. Introduction :

(1) The Law of Demand only explains the inverse relationship between the price of a commodity and its quantity demanded. It does not explain the quantitative relationship (extent of change) in the demand of a commodity due to a change in its price.

(2) Therefore, **Prof. Alfred Marshall** explained the concept of elasticity of demand.

2. Concept of Elasticity of Demand :

(1) The elasticity of demand is a technical term which describes the responsiveness of change in quantity demanded to fall or rise in its price or the responsiveness of change in quantity demanded to change in other factors such as change in the income of the consumer or change in the prices of other goods.

(2) According to Alfred Marshall, "Elasticity of demand is great or small according to the amount demanded which rises much or little for a given fall in the price and quantity demanded falls much or little for a given rise in price."

3. Types of Elasticity of Demand :

(1) Income Elasticity of Demand :

(a) **Meaning** : Income elasticity of demand can be defined as the percentage change in the quantity demanded of a commodity in response to a percentage change in the income of the consumer only.

(b) **Formula** : $E_y = \frac{\Delta Q}{Q} \times \frac{Y}{\Delta Y}$

(c) **Types** : The types of income elasticity of demand are explained in the following table :

Sr. No.	Types	Explanation	Examples
1.	Positive Income Elasticity of Demand	The change in the income of a consumer and the change in the demand of a commodity have direct relation.	Normal goods (For example, Ice cream)

2.	Negative Income Elasticity of Demand	The change in the income of a consumer and the change in the demand of a commodity have inverse relation.	Cheap Quality (Giffen) Goods. (For example, Bread, Vanaspati ghee)
3.	Zero Income Elasticity of Demand	The change in the income of a consumer brings no change in the demand of a commodity.	Necessities (For example, Medicines)

(2) Cross Elasticity of Demand :

(a) Meaning : Cross elasticity of demand can be defined as the percentage change in the quantity demanded of one commodity (say 'x') in response to the change in the price of another commodity (say 'y').

(b) Formula :
$$E_c = \frac{\Delta Q_x}{Q_x} \times \frac{P_y}{\Delta P_y}$$

(c) Types : The types of cross elasticity of demand are explained in the following table :

Sr. No.	Types	Explanation	Examples
1.	Positive Cross Elasticity of Demand	Direct relation between the demand of one good and price of another good.	Substitute Goods (Tea-Coffee)
2.	Negative Cross Elasticity of Demand	Inverse relation between the demand of one good and price of another good.	Complementary Goods (Petrol and Two Wheeler)
3.	Zero Cross Elasticity of Demand	No relation between the demand of one good and price of another good.	Unrelated Goods (Tea and Petrol)

(3) Price Elasticity of Demand :

(a) Meaning : Price elasticity of demand can be defined as the percentage change in the quantity demanded of a commodity in response to a percentage change in the price of a commodity only.

(b) Formula :
$$E_d = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

(c) Types : The types of price elasticity of demand are explained in the following table :

Note : Activity given in **Try this** on Page 30 of the textbook is included here.

Sr. No.	Degree of Elasticity of Demand	Types	Description
1.	$E_d = 0$	Perfectly Inelastic Demand	Percentage change in price does not affect demand at all.
2.	$E_d = 1$	Unitary Elastic Demand	Percentage change in demand is equal to percentage change in price.
3.	$E_d > 1$	Relatively Elastic Demand	Percentage change in demand is greater than percentage change in price.
4.	$E_d < 1$	Relatively Inelastic Demand	Percentage change in demand is lesser than percentage change in price.
5.	$E_d = \infty$	Perfectly Elastic Demand	Slight percentage change in price brings infinite change in demand.

4. Methods of Measuring Price Elasticity of Demand :

(1) Ratio Method / Arithmetic Method / Percentage Method / Proportional Method :

(a) Explanation : In this method, the elasticity of demand is measured by dividing the percentage change in the quantity demanded of a commodity by the percentage change in its price.

(b) Formula : The formula used for the measurement of the elasticity of demand is as follows :

$$Ed = E_y = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

(2) Total Outlay / Total Expenditure Method :

Explanation : In this method, the elasticity of demand is measured by comparing the change in

the total expenditure on a commodity in response to a change in the price of a commodity.

(3) Point Method / Geometric Method :

(a) Explanation : This method is used to find out the elasticity of demand at any given point on a linear demand curve or on a non-linear demand curve.

(b) Formula : (a) The price elasticity of demand at a given point on a linear demand curve can be calculated with the help of the following formula :

$$Ed = \frac{\text{Lower segment of the demand curve below the given point}}{\text{Upper segment of the demand curve below the given point}}$$

(b) The price elasticity of demand at a given point on a non-linear demand curve can be calculated with the help of the following formula :

$$Ed = \frac{\text{Lower segment of the tangent below the given point}}{\text{Upper segment of the tangent below the given point}}$$

5. Factors Influencing the Elasticity of Demand :

The factors influencing the elasticity of demand are explained in the following table :

Factor Influencing the Elasticity of Demand	Explanation	Type of Elasticity of Demand
1. Nature of commodity	Necessities	Relatively Inelastic Demand
	Comfort and Luxury goods	Relatively Elastic Demand
2. Availability of substitutes	Non-Availability of substitutes	Relatively Inelastic Demand
	Availability of substitutes	Relatively Elastic Demand
3. Number of uses of commodity	Single / Limited / Specific use	Relatively Inelastic Demand
	Multi uses	Relatively Elastic Demand
4. Habits / Addiction	Habit / addiction for a commodity	Relatively Inelastic Demand
	No habit / addiction for a commodity	Relatively Elastic Demand
5. Durability of commodity	Less durable / perishable	Relatively Inelastic Demand
	Durable	Relatively Elastic Demand
6. Complementary goods	Commodities used in conjunction	Relatively Inelastic Demand
	Commodities not used in conjunction	Relatively Elastic Demand
7. Income of the consumer	High income level	Relatively Inelastic Demand
	Low income level	Relatively Elastic Demand

8. Urgency of need / Possibility of postponement of consumption	More urgency of need / Non-possibility of postponement of consumption	Relatively Inelastic Demand
	Less urgency of need / Possibility of postponement of consumption	Relatively Elastic Demand
9. Time period	Short period	Relatively Inelastic Demand
	Long period	Relatively Elastic Demand

6. Importance of Elasticity of Demand :

The importance of elasticity of demand is explained in the following table :

Importance of Elasticity of Demand	Explanation of Elasticity	Importance
1. Importance to a producer	Demand for a produced good is relatively inelastic.	Can charge higher price and earn maximum profit.
	Demand for a produced good is relatively elastic.	Can charge lower price and encourage maximum sale and thereby earn maximum revenue.
2. Importance to government	Demand for goods and services is relatively inelastic.	Can impose heavy taxes and can collect tax revenue. (For example, heavy taxes on liquor)
	Demand for goods and services is relatively elastic.	Can impose low taxes and encourage maximum sale and thereby collect tax revenue.
3. Important in factor pricing	Demand for factor of production is relatively inelastic.	Can earn higher returns / rewards.
	Demand for factor of production is relatively elastic.	Possibility of lower returns / rewards.
4. Importance in foreign trade	The goods produced in a nation having relatively inelastic demand in world market.	By charging higher prices goods can be exported in maximum quantities.
	The goods produced in other countries having relatively elastic demand in a nation.	By charging higher import duties goods can be imported in limited quantities.
5. Importance in public utilities	Goods and services having relatively inelastic demand.	Rights of Production / Sale, etc. are given to public sector.
	Goods and services having relatively elastic demand.	Rights of Production / Sale, etc. are given to private sector.
6. Importance of consumption patterns according to Proportion of expenditure	Proportion of expenditure in total income is less in case of relatively inelastic demand.	Consumer can consume such goods on a regular basis.
	Proportion of expenditure in total income is more in case of relatively elastic demand.	Consumer can consume such goods occasionally.

EXERCISE

1 Complete the following statements by choosing the correct alternatives :

(1 Mark each)

*** [1]**

- (1) Price elasticity of demand on a linear demand curve at the X-axis is
(a) zero (b) one
(c) infinity (d) less than one
- (2) Price elasticity of demand on a linear demand curve at the y-axis is equal to
(a) zero (b) one
(c) infinity (d) greater than one
- (3) Demand curve is parallel to X-axis, in case of
(a) perfectly elastic demand
(b) perfectly inelastic demand
(c) relatively elastic demand
(d) relatively inelastic demand
- (4) When percentage change in quantity demanded is more than the percentage change in price, the demand curve is
(a) flatter (b) steeper
(c) rectangular (d) horizontal
- (5) $E_d = 0$ in case of
(a) luxuries (b) normal goods
(c) necessities (d) comforts

- Ans.** (1) Price elasticity of demand on a linear demand curve at the X-axis is zero.
 (2) Price elasticity of demand on a linear demand curve at the y-axis is equal to infinity.
 (3) Demand curve is parallel to X-axis, in case of perfectly elastic demand.
 (4) When percentage change in quantity demanded is more than the percentage change in price, the demand curve is flatter.
 (5) $E_d = 0$ in case of necessities.

[2]

Note : The activity given in 'Find Out' on page 30 of the textbook is included here with answers by rewording them as per the question type of new paper pattern.

- (1) The demand for cosmetics is
(a) relatively elastic (b) infinite elastic
(c) unitary elastic (d) relatively inelastic
- (2) The demand for medicine is
(a) relatively elastic (b) perfectly elastic
(c) unitary elastic (d) relatively inelastic
- (3) The demand for school uniform is
(a) relatively elastic (b) perfectly inelastic
(c) unitary elastic (d) relatively inelastic
- (4) The demand for air conditioners is
(a) relatively inelastic (b) relatively elastic
(c) perfectly inelastic (d) perfectly elastic

- Ans.** (1) The demand for cosmetics is relatively elastic.
 (2) The demand for medicine is relatively inelastic.
 (3) The demand for school uniform is relatively inelastic.
 (4) The demand for air conditioners is relatively elastic.

2 Find the odd word : (1 Mark each)

- (1) Sweets, Biscuits, Fruits, Medicines
- (2) Perfume, Vegetable ghee, Clothes, Cold drinks
- (3) Cold drinks, Soap, Salt, Biscuits
- (4) Washing machine, Wooden chair, Cupboard, Milk
- (5) Vegetables, Eggs, Television set, Fruits.

- Ans.** (1) Medicines (2) Vegetable ghee (3) Salt
 (4) Milk (5) Television set.

*** 3 Complete the correlation : (1 Mark each)**

- (1) Perfectly elastic demand : $E_d = \alpha$: : :
 $E_d = 0$.
- (2) Rectangular hyperbola : : : Steeper demand curve : Relatively inelastic demand.
- (3) Straight line demand curve : Linear demand curve : : : Non linear demand curve.
- (4) Pen and Ink : : : Tea and Coffee : Substitutes.
- (5) Ratio method : $E_d = \frac{\% \Delta Q}{\% \Delta P}$: : :
 $E_d = \frac{\text{Lower segment}}{\text{Upper segment}}$

Ans. (1) Perfectly inelastic demand (2) Unitary elastic demand (3) Curved line demand curve (4) Complementary goods (5) Geometrical method.

*** 4 Give economic terms : (1 Mark each)**

- (1) Degree of responsiveness of quantity demanded to change in income only.
- (2) Degree of responsiveness of a change in quantity demanded of one commodity due to change in the price of another commodity.
- (3) Degree of responsiveness of a change of quantity demanded of a goods to a change in its price.
- (4) Elasticity resulting from infinite change in quantity demanded.
- (5) Elasticity resulting from a proportionate change in quantity demanded due to a proportionate change in price.

Ans. (1) Income elasticity of demand (2) Cross elasticity of demand (3) Price elasticity of demand (4) Perfect elasticity (5) Unitary elasticity.

5 Assertion and Reasoning Type Questions : (1 Mark each)

*** (1) Assertion (A) :** Elasticity of demand explains that one variable is influenced by another variable.

Reasoning (R) : The concept of elasticity of demand indicates the effect of price and changes in other factors on demand.

- Options :** (1) (A) is true, but (R) is false.
 (2) (A) is false, but (R) is true.
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

*** (2) Assertion (A) :** A change in quantity demanded of one commodity due to a change in the price of the other commodity is cross elasticity.

Reasoning (R) : Changes in consumer's income leads to a change in the quantity demanded.

Options : (1) (A) is true, but (R) is false

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

*** (3) Assertion (A) :** Degree of price elasticity is less than one in case of relatively inelastic demand.

Reasoning (R) : Change in demand is less than the change in price.

- Options :** (1) (A) is true, but (R) is false.
 (2) (A) is false, but (R) is true.
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Assertion (A) : Demand for furniture is relatively elastic.

Reasoning (R) : The consumption of furniture can be postponed.

- Options :** (1) (A) is true, but (R) is false.
 (2) (A) is false, but (R) is true.
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(5) Assertion (A) : Tea and coffee have positive cross elasticity of demand.

Reasoning (R) : As the price of coffee rises, the demand for tea falls.

- Options :** (1) (A) is true, but (R) is false.
 (2) (A) is false, but (R) is true.
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (1) (A) is true, but (R) is false

6 Identify and explain the concepts from the given illustrations : (1 Mark each)

(1) Santosh, instead of demanding more reduced the demand for vegetable ghee as his salary increased.

Ans. (A) Identified concept : Negative income elasticity of demand.

(B) Explanation of concept : When demand for certain goods decreases due to a rise in the income of the consumer, such goods are said to have negative income elasticity of demand. (Inverse relation between the demand and income) Inferior / Giffen goods have negative income elasticity of demand.

Inferior / Giffen Goods' demand	↓	Income	↑
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(2) Aarti demanded more sugar, as the price of jaggery increased.

Ans. (A) Identified concept : Positive cross elasticity of demand.

(B) Explanation of concept : When demand for a certain good increases due to a rise in the price of other good, such goods are said to have positive cross elasticity of demand. (Direct relation between the demand of one good and price of another good.) Substitute goods have positive cross elasticity of demand.

Sugar's demand	↑	Jageery's Price	↑
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(3) Rohit bought a two-wheeler because he made a lot of profit in his business.

Ans. (A) Identified concept : Positive income elasticity of demand.

(B) Explanation of concept : When demand for certain goods increases due to a rise in the income of the consumer, such goods are said to have positive income elasticity of demand. (Direct relation between the demand and income) Normal goods have positive income elasticity of demand.

Normal Goods' demand	↑	Income	↑
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7 Distinguish between the following :

(2 Marks each)

* (1) Relatively Elastic Demand and Relatively Inelastic Demand :

Ans.

Relatively Elastic Demand

Relatively Inelastic Demand

1. Meaning

When the proportionate change in the price of a commodity brings about greater than proportionate change in its quantity demanded, the demand is said to be relatively elastic.

When the proportionate change in the price of a commodity brings about lesser than proportionate change in its quantity demanded, the demand is said to be relatively inelastic.

2. Numerical Value

In the case of relatively elastic demand, the numerical value of the elasticity of demand is greater than one.

In the case of relatively inelastic demand, the numerical value of the elasticity of demand is lesser than one.

* (2) Perfectly Elastic Demand and Perfectly Inelastic Demand :

Ans.

Perfectly Elastic Demand

Perfectly Inelastic Demand

1. Meaning

When a slight proportionate change in the price of a commodity brings an infinite (unlimited) proportionate change in its quantity demanded, the demand is said to be perfectly elastic.

When the proportionate change in the price of a commodity brings no (zero) proportionate change in its quantity demanded, the demand is said to be perfectly inelastic.

2. Numerical Value

In the case of perfectly elastic demand, the numerical value of the elasticity of demand is infinite.

In the case of perfectly inelastic demand, the numerical value of the elasticity of demand is zero.

(3) Income Elasticity of Demand and Cross Elasticity of Demand :

Income Elasticity of Demand	Cross Elasticity of Demand
1. Meaning	
Income elasticity of demand can be defined as the percentage change in the quantity demanded of a commodity in response to a change in the income of the consumer.	Cross elasticity of demand can be defined as the percentage change in the quantity demanded of one commodity (say 'x') in response to the change in the price of another commodity (say 'y').
2. Formula	
$E_y = \frac{\Delta Q}{Q} \times \frac{Y}{\Delta Y}$ Where, (i) ΔQ = Change in demand (ii) ΔY = Change in income (iii) Y = Original income (iv) Q = Original Demand.	$E_c = \frac{\Delta Q_x}{Q_x} \times \frac{P_y}{\Delta P_y}$ Where, (i) ΔQ_x = Change in demand for commodity x (ii) ΔP_y = Change in price of commodity y (iii) P_y = Original price of commodity y (iv) Q_x = Original demand for commodity x.

8 Answer the following : (4 Marks each)

*** (1) Explain the factors influencing elasticity of demand.**

Ans. For the answer, refer to Q. 12 (2) in Answer the following questions in detail.

(Note : Any four points are expected in answer.)

*** (2) Explain Total Outlay Method of measuring elasticity of demand.**

Ans. (1) Dr. Alfred Marshall has explained the outlay method of measuring elasticity of demand. This method is also called as total expenditure method or total revenue method. Total expenditure means Price $\times$ Quantity demanded. In this method, the elasticity of demand is measured by comparing the change in the total expenditure on a commodity in response to a change in the price of a commodity. This method can be explained with the help of the following schedule :

Commodity	Price (₹)	Demand (per day in units)	Total Outlay (₹)	Elasticity of Demand
A	10	6	60	$E_d < 1$ (Relatively inelastic)
	20	5	100	

B	30	4	120	$E_d = 1$ (Unitary Elastic)
	40	3	120	
C	50	2	100	$E_d > 1$ (Relatively elastic)
	60	1	60	

(2) Relatively inelastic demand : When a fall in the price of a commodity also leads to a fall in a total expenditure on a commodity and vice versa, then the demand is said to be relatively inelastic. For example, in the above schedule, in the case of commodity 'A', it can be seen that, as a commodity's price falls from ₹ 20 to ₹ 10, the total expenditure on it also falls from ₹ 100 to ₹ 60. Similarly, as a commodity's price rises from ₹ 10 to ₹ 20, the total expenditure on it also rises from ₹ 60 to ₹ 100. In the case of relatively inelastic demand, the price of a commodity and the total expenditure on a commodity are directly related to each other.

(3) Unitary elastic demand : When a fall or a rise in the price of a commodity leads to no change in total expenditure on a commodity, then the demand is said to be unitary elastic. For example, in the above schedule, in the case of commodity 'B', it can be seen that, as a commodity's price falls from ₹ 40 to ₹ 30, the total expenditure on it remains

same i.e. ₹ 120. Similarly, as a commodity's price rises from ₹ 30 to ₹ 40, the total expenditure on it remains same i.e. ₹ 120.

(4) Relatively elastic demand : When a fall in the price of a commodity leads to a rise in a total expenditure on a commodity and vice versa, then the demand is said to be relatively elastic. For example, in the above schedule, in the case of commodity 'C', it can be seen that, as a commodity's price falls from ₹ 60 to ₹ 50, the total expenditure on it rises from ₹ 60 to ₹ 100. Similarly, as a commodity's price rises from ₹ 50 to ₹ 60, the total expenditure on it falls from ₹ 100 to ₹ 60. In the case of relatively elastic demand, the price of a commodity and the total expenditure on a commodity are inversely related to each other.

(3) Explain the Ratio Method of measuring elasticity of demand.

Ans. (1) Ratio Method of measuring elasticity of demand is developed by Dr. Alfred Marshall. This method is also known as arithmetic method or percentage method or proportional method of measuring elasticity of demand.

(2) In this method, the elasticity of demand is measured by dividing the percentage change in the quantity demanded of a commodity by the percentage change in its price.

(3) The formula used for the measurement of the elasticity of demand is as follows :

$$Ed = \frac{\Delta Q}{Q} \times \frac{P_y}{\Delta P_y} \text{ Where,}$$

(i) ΔQ = Change in the quantity demanded, i.e. $Q_1 - Q$. (New demand – Original demand)

(ii) Q = Original demand (iii) ΔP = Change in the price, i.e. $P_1 - P$. (New price – Original price) and

(iv) P = Original price.

(4) Ratio Method can be explained with the help of the following example :

Price and Demand of a Commodity	Original	New	Change
Demand (per day in units)	10 (Q)	9 (Q_1)	01 (ΔQ) $Q_1 - Q$
Price (₹)	20 (P)	25 (P_1)	05 (ΔP) $P_1 - P$

$$Ed = \frac{\Delta Q}{Q} \times \frac{P_y}{\Delta P_y}$$

$$\therefore Ed = \frac{1}{10} \times \frac{20}{5}$$

$$\therefore Ed = 0.4$$

$$\therefore Ed < 1.$$

As the numerical value of the elasticity of demand is less than one, the demand is relatively less elastic in this example.

* (4) Explain importance of elasticity of demand.

Ans. The importance of elasticity of demand can be explained with the help of the following points :

(1) Importance to producers : The concept of elasticity of demand helps the seller in fixing the prices of his products. If the demand for a commodity sold by the producer is inelastic, the producer can charge higher price for such a commodity and can earn the maximum profit. On the other hand, if the demand for a commodity sale by the producer is elastic, the producer can charge lower price for such a commodity and can earn the profit by its maximum sale.

(2) Importance to the Government : The concept of elasticity of demand helps the finance minister and the government in framing the taxation policy. If the demand for a particular commodity is inelastic, the government can collect more revenue by imposing heavy taxes on such a commodity. Therefore, generally heavy taxes are imposed on commodities like cigarettes, liquor, etc. On the other hand, if the demand for a particular commodity is elastic, the government can impose low taxes and can encourage sale of such a commodity and can collect revenue from it.

(3) Importance in factor pricing : The concept of elasticity of demand also helps in the determination of wages of workers. For example, the demand for skilled employees performing higher intellectual work is less elastic, therefore they can demand more salary. On the other hand, the demand for unskilled labourer performing physical work is more elastic, therefore they have to accept comparatively low wages.

(4) Importance in foreign trade : The concept of elasticity of demand is helpful to the government in determining the terms and conditions for

international trade and framing the export and import policy. If the demand for a commodity exported is inelastic, the country can raise the price of that commodity in the international market. On the other hand, if the demand for a commodity exported is elastic, the country can focus on its maximum export at low price in the international market.

(5) Public utilities : The concept of elasticity of demand is helpful to government in taking decisions regarding manufacturing and selling various goods and services by various sectors in a mixed economy. In order to avoid the exploitation of the consumers and to promote the social welfare, public sector manufactures and sells certain goods and services having less elastic demand. For example, public utilities like railways have inelastic demand. Therefore to avoid the exploitation of consumers, the government can either subsidise or nationalise such public utilities. On the other hand, government allows private sector to produce and sell those commodities having relatively elastic demand.

(6) Proportion of expenditures : The concept of elasticity of demand is also helpful in taking decisions regarding consumption of various goods and services. If a proportion of expenditure on a particular product in a person's total income is small and recurring, the demand for such a product is relatively inelastic. For example, expenditure on a newspaper. Consumer can regularly consume such a commodity. On the other hand, if a proportion of expenditure on a particular product in a person's total income is large and occasional, the demand for such a product is relatively elastic. With proper economic planning, a consumer can consume such a commodity. For example, planned expenditure on luxury goods. **(Note : Any four points are expected in answer.)**

9 Solve the following : (4 Marks each)

(1) Find Out (Textbook Page 31)

As the price of peanut packet increases by 5%, the demand for number of peanut packets

falls by 8%. What is the elasticity of demand for peanut packets?

Ans. The elasticity of demand for peanut packets can be measured with the help of the following formula :

$$E_d = \frac{\% \Delta Q}{\% \Delta P} = \frac{8}{5} = 1.6$$

Thus, $E_d > 1$. Therefore, the elasticity of demand for peanut packets is relatively elastic.

(2) As the price of salt increases by 20%, the demand for salt falls by 3%. What is the elasticity of demand for salt?

Ans. The elasticity of demand for salt can be measured with the help of the following formula :

$$E_d = \frac{\% \Delta Q}{\% \Delta P} = \frac{3}{20} = 0.15$$

Thus, $E_d < 1$. Therefore, the elasticity of salt is relatively inelastic.

(3) As the price of sweets decreases by 25%, the demand for sweets rises by 35%. What is the elasticity of demand for sweets?

Ans. The elasticity of demand for sweets can be measured with the help of the following formula :

$$E_d = \frac{\% \Delta Q}{\% \Delta P} = \frac{35}{25} = 1.4$$

Thus, $E_d > 1$. Therefore, the elasticity of demand for sweets is relatively elastic.

10 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

(1) Various factors influence the elasticity of demand.

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 12 (2) in Answer the following questions in detail.

(Note : Any 3 points are expected in the answer.)

(2) The concept of elasticity of demand has no importance.

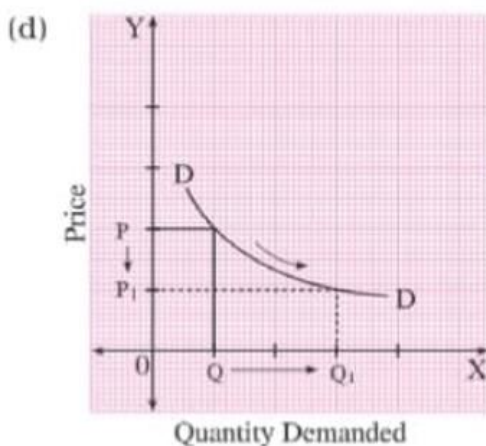
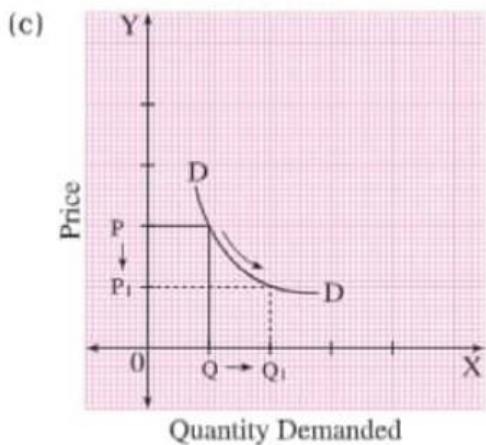
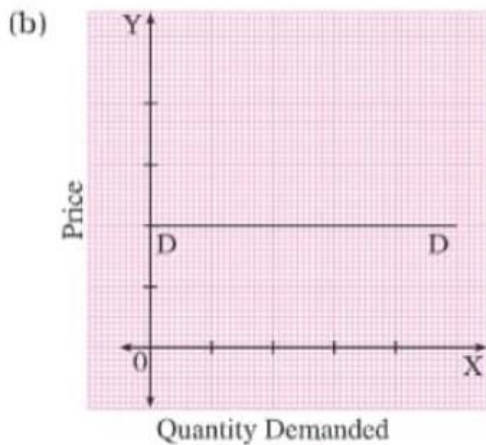
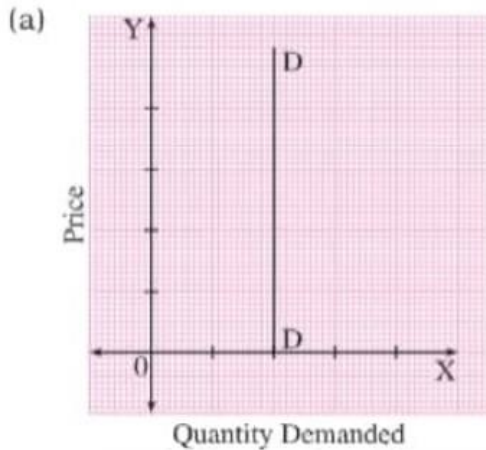
Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 8 (4) in Answer the following.

(Note : Any 3 points are expected in the answer.)

• (ii) Observe the given table/diagram and answer the questions : (4 Marks each)

(1) Identify and define the degree of elasticity of demand from the following demand curves.



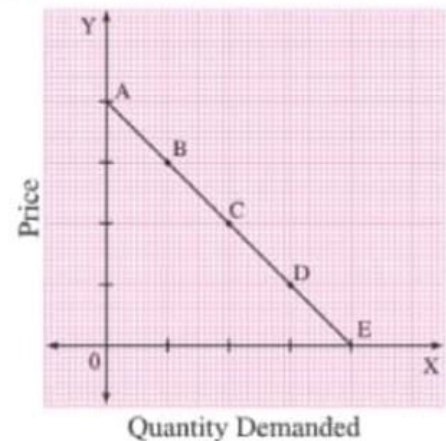
Ans. (a) Degree of elasticity of demand : Perfectly inelastic.

(b) Degree of elasticity of demand : Perfectly elastic.

(c) Degree of elasticity of demand : Unitary elastic.

(d) Degree of elasticity of demand : Relatively elastic.

(2) In the following diagram AE is the linear demand curve of a commodity. On the basis of the given diagram state whether the following statements are true or false. Give reasons for your answer.



(1) Demand at point 'C' is relatively elastic demand.

Ans. False.

Reason : On the demand curve AE, the distance of CE is less than that of CA. Thus, point 'C' is close to X-axis. Therefore, the demand at point 'C' is not relatively elastic, but is relatively inelastic.

(2) Demand at point 'B' is unitary elastic demand.

Ans. False.

Reason : On the demand curve AE, the distance of BE is greater than that of BA. Thus, point 'B' is close to Y-axis. Therefore, the demand at point 'B' is not unitary elastic, but is relatively elastic.

(3) Demand at point 'D' is perfectly inelastic demand.

Ans. False.

Reason : On the demand curve AE, the distance of DE is equal to that of DA. Thus, point 'D' is equally close to (equally away from) X-axis and Y-axis. Therefore, the demand at point 'D' is not perfectly inelastic, but is unitary elastic.

(4) Demand at point 'A' is perfectly elastic demand.

Ans. True.

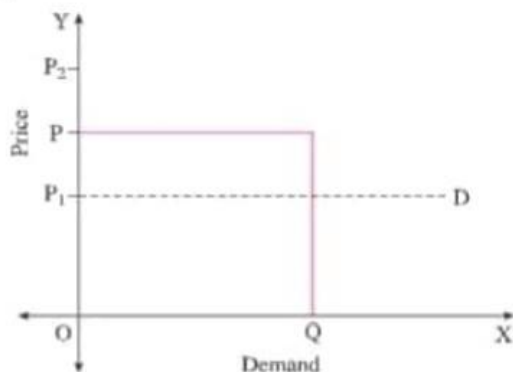
Reason : On the demand curve AE, at point 'A' the lower segment of the demand curve is AE and there is no upper segment of the demand curve. Thus at point 'A' the numerical value of upper segment of the demand curve is zero. Thus, at point 'A', the distance AE is greater than that of zero. Thus, point 'A' lies on the Y-axis. Therefore, the demand at point 'A' is perfectly elastic.

**12 Answer the following questions in detail :
(8 Marks each)**

(1) What are the types of price elasticity of demand?

Ans. The types of price elasticity of demand are as follows :

(1) Perfectly / Infinite Elastic Demand : When a proportionate change in the price of a commodity brings infinite (unlimited) proportionate change in the quantity demanded, the demand is said to be perfectly elastic.



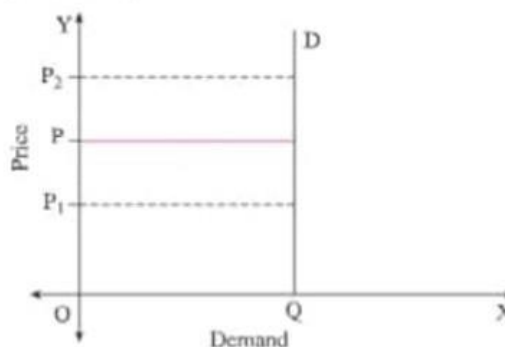
Explanation of Diagram : From the above diagram it can be seen that the original price of a commodity is OP and the original demand of a commodity is OQ. When the price of a commodity rises from OP to OP₂, the demand of a commodity falls and becomes zero. When the price of a commodity falls from OP to OP₁, the demand of a commodity rises up to infinity. In the case of perfectly elastic demand, the demand curve is a horizontal straight line, parallel to X-axis.

Measurement of Elasticity :

$$Ed = \frac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}} = \frac{\alpha}{0} = \alpha$$

The numerical value of perfectly elastic demand is infinity. (Ed = α) Perfectly elastic demand is only a theoretical possibility.

(2) Perfectly Inelastic Demand : When the proportionate change in price of a commodity brings no (zero) proportionate change in its quantity demanded, the demand is said to be perfectly inelastic.



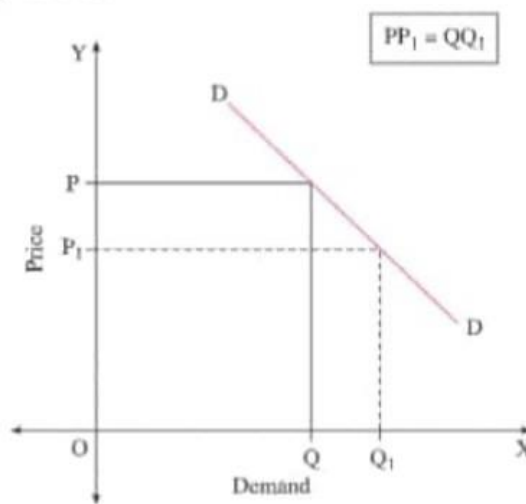
Explanation of Diagram : From the above diagram it can be seen that the original price of a commodity is OP and the original demand of a commodity is OQ. When the price of a commodity rises from OP to OP₂ (by 20 per cent) the demand remains constant i.e. OQ. Similarly, when the price of a commodity falls from OP to OP₁ (by 20 per cent) the demand remains constant. In the case of perfectly inelastic demand, the demand curve is a vertical straight line, parallel to Y-axis.

Measurement of Elasticity :

$$Ed = \frac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}} = \frac{0}{20} = 0$$

The numerical value of perfectly inelastic demand is zero. (Ed = 0) Perfectly inelastic demand is also only a theoretical possibility.

(3) Unitary Elastic Demand : When the proportionate change in the price of a commodity brings about exactly equal proportionate change in its quantity demanded, the demand is said to be unitary elastic.



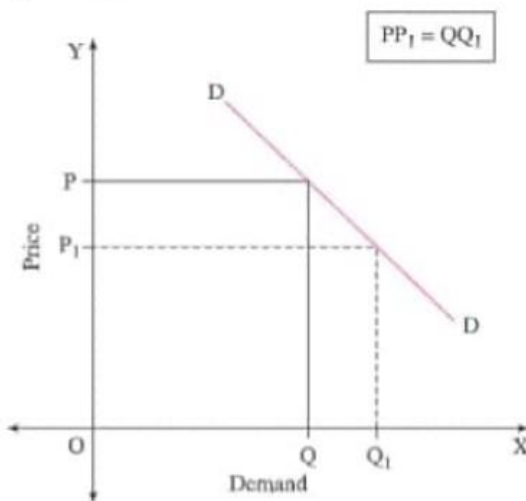
Explanation of Diagram : From the above diagram it can be seen that the original price of a commodity is OP and the original demand of a commodity is OQ. When the price of a commodity falls from OP to OP_1 (by 25 per cent) the demand of a commodity rises from OQ to OQ_1 (by 25 per cent). In the case of perfectly inelastic demand, the demand curve is a rectangular hyperbola.

Measurement of Elasticity :

$$Ed = \frac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}} = \frac{25}{25} = 1$$

The numerical value of unitary elastic demand is one. ($Ed = 1$)

(4) Relatively Elastic Demand : When the proportionate change in the price of a commodity brings about greater than proportionate change in its quantity demanded, the demand is said to be relatively elastic.



Explanation of Diagram : From the above diagram it can be seen that the original price of a commodity is OP and the original demand of a commodity is OQ. When the price of a commodity falls from OP to OP_1 (by 25 per cent) the demand of a commodity rises from OQ to OQ_1 (by 50 per cent). In the case of relatively elastic demand, the demand curve is a flatter line.

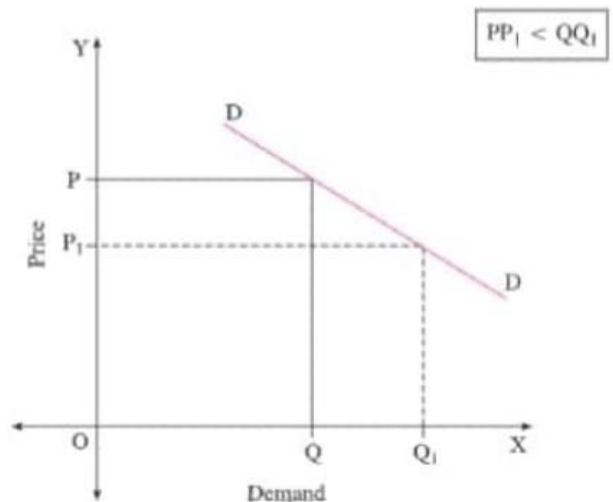
Measurement of Elasticity :

$$Ed = \frac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}} = \frac{50}{25} = 2$$

The numerical value of relatively elastic demand is greater than one. ($Ed > 1$)

(5) Relatively Inelastic Demand : When the proportionate change in the price of a commodity

brings about less than proportionate change in its quantity demanded, the demand is said to be relatively inelastic.



Explanation of Diagram : From the above diagram it can be seen that the original price of a commodity is OP and the original demand of a commodity is OQ. When the price of a commodity falls from OP to OP_1 (by 50 per cent) the demand of a commodity rises from OQ to OQ_1 (by 25 per cent). In the case of relatively inelastic demand, the demand curve is a steeper line.

Measurement of Elasticity :

$$Ed = \frac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}} = \frac{25}{50} = 0.5$$

The numerical value of relatively inelastic demand is less than one. ($Ed < 1$)

(2) What are the factors influencing the elasticity of demand?

Ans. The factors influencing elasticity of demand are as follows :

(1) Nature of Commodities : Nature of commodities is one of the important factors influencing the elasticity of demand. We can classify commodities as necessities, comforts and luxury goods. The necessary goods like salt, medicines, etc. have less elastic demand. On the other hand, comfort and luxury goods like cars, perfumes, jewellery, etc. have more elastic demand.

(2) Availability of Substitute Goods : A commodity having larger number of substitutes tends to have elastic demand and vice versa. For example, due to the availability of larger number of substitutes, the demand for cold drinks tends to

be elastic. Similarly due to a lack of substitutes, the demand for salt is inelastic.

(3) Number of uses : A commodity which has specific use has less elastic demand. For example, a demand for a particular vegetable is less elastic. A commodity which can be put to several uses has elastic demand. When the price of such a commodity falls, it is put into various uses. Similarly when the price of such a commodity rises, it is put only for important purposes. For example, electricity has elastic demand.

(4) Habits : The demand for habituated goods tends to be inelastic. For example, a smoker's demand for cigarettes is inelastic. On the other hand, the demand for non-habituated goods tends to be elastic. For example, demand for biscuits is more elastic.

(5) Durability : Elasticity of demand also gets influenced by the durability of a commodity. Durable commodities such as washing machine, television set tend to have elastic demand and the perishable commodities such as milk, eggs tend to have inelastic demand.

(6) Complementary Goods : Demand for complementary goods is inelastic. Complementary goods are demanded jointly. Therefore, their demand remains almost fixed. For example, the demand only for sim card or mobile phone tends to be inelastic. The goods which are not complementary to each other have more elastic demand. For example, the demand of only magazines or only cold drinks is elastic.

(7) Income of consumer : The demand for commodities tends to be inelastic with a rise in income and elastic with a fall in income. For example, a rich person's demand for a particular commodity may be inelastic, but a poor person's demand for that same commodity may be elastic.

(8) Urgency of needs : The commodities that are needed urgently, i.e. the commodities whose consumption cannot be postponed have less elastic demand. For example, demand for medicines. On the other hand, the commodities that are not needed

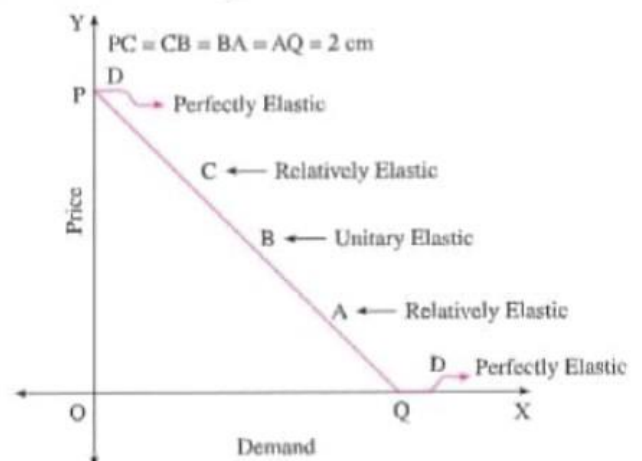
urgently, i.e. the commodities whose consumption can be postponed have more elastic demand. For example, demand for computer.

(9) Time period : In a short run, the demand for specific commodity may tend to be inelastic. In the long run, a consumer may demand a cheaper substitute commodity. Thus, the demand for an original commodity tends to be elastic in the long run.

(3) Explain the geometric method of measuring elasticity of demand.

Ans. (1) Geometric method of measuring elasticity of demand is also developed by Dr. Alfred Marshall. This method is also known as point method of measuring elasticity of demand. The ratio method and total outlay method are unable to measure elasticity of demand at a given point on a demand curve. Geometric method is therefore used to find out the elasticity of demand at any given point on a demand curve.

(2) For measuring the elasticity of demand at a given point on the linear demand curve, the linear demand curve can be extended to meet the Y-axis at P and X-axis at Q as follows :



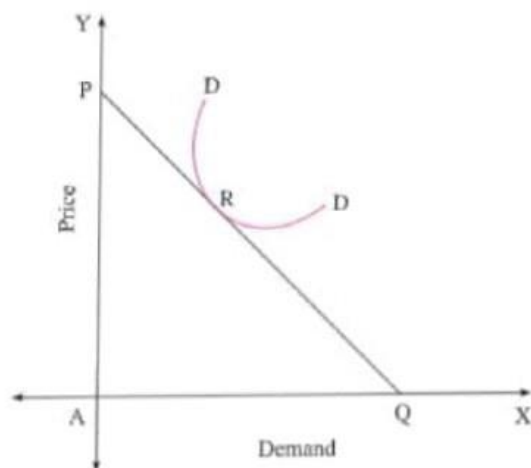
The price elasticity of demand at a point 'A' can be calculated with the help of the following formula :

$$E_d = \frac{\text{Lower segment of the demand curve below the given point}}{\text{Upper segment of the demand curve above the given point}}$$

$$\therefore E_d = \frac{AQ}{AP} = \frac{2}{6} = 0.33$$

At point 'A' the numerical value of elasticity of demand is less than one ($E_d = 0.33$). Therefore at point 'A' the demand is relatively inelastic.

(3) For measuring the elasticity of demand at a given point on the non-linear demand curve, tangent from a given point touching the Y-axis and X-axis is drawn as follows : RQ = 6 cm, RP = 2 cm



The price elasticity of demand at a point 'R' can be calculated with the help of the following formula :

$$Ed = \frac{\text{Lower segment of the tangent below the given point}}{\text{Upper segment of the tangent above the given point}}$$

$$\therefore Ed = \frac{RQ}{RP} = \frac{6}{2} = 3$$

At point 'R' the numerical value of elasticity of demand is greater than one ($Ed = 3$). Therefore at point 'R' the demand is relatively elastic.

(4) The following conclusions can be drawn with the help of the geometrical method of measuring elasticity of demand :

A position of a given point with reference to Y-axis and X-axis	Value of Elasticity of Demand	Type of Elasticity of Demand
1. Given point on a Y-axis.	Infinity ($Ed = \infty$)	Perfectly elastic demand
2. Given point is relatively close to Y-axis	Greater than one ($Ed > 1$)	Relatively elastic demand
3. Given point is equally close to (equally away from) Y-axis and X-axis	One ($Ed = 1$)	Unitary elastic demand
4. Given point is relatively close to X-axis	Greater than one ($Ed < 1$)	Relatively inelastic demand
5. Given point on the X-axis	Zero ($Ed = 0$)	Perfectly inelastic demand

* * *



SUPPLY ANALYSIS

IMPORTANT CONCEPTS

- **Total Output** : Total output can be defined as the sum total of quantity of the commodity produced at a given period of time in the economy.
- **Stock** : Stock refers to the entire quantity of a commodity which exists with the seller.
- **Supply** : Supply refers to the quantity of a commodity offered for sale at a given price and at a point of time.
- **Aggregate supply** : It refers to the minimum amount of sales proceeds which entrepreneurs expect to receive from the sale of output at a given level of employment.

CHAPTER AT A GLANCE

1. Introduction :

- (1) Supply is a fundamental economic concept.
- (2) Supply refers to the quantity of a commodity offered for sale at a given price and at a point of time.

2. Concepts of Total Output, Stock and Supply :

Total Output	Stock	Supply
1. Output/Production leads to consumption.	1. Stock is a source of Supply.	1. Supply is a relative concept.
2. In the process of production, the inputs are converted into outputs / finished goods.	2. Stock is a potential supply.	2. Supply is a flow concept.

3. Definition of Supply :

- (1) According to **Paul Samuelson**, "Supply refers to the relation between market prices and the amount of goods that producers are willing to supply."
- (2) From the definition, it can be seen that supply refers to the quantity of a commodity that a seller is willing and able to offer for sale at a given price, during a certain period of time.

4. Supply Schedule :

- (1) Supply schedule is a tabular representation of the functional relationship between price and quantity supplied for a particular commodity.
- (2) Types of supply schedule are explained in the following table :

Types of Supply Schedule	
(A) Individual Supply Schedule	(B) Market Supply Schedule
1. The total quantities of a commodity supplied by a particular seller at different prices during a given period of time is individual supply.	1. The sum of the total quantities of a commodity supplied by all sellers at different prices during a given period of time is market supply.

2. Individual supply schedule is a tabular representation of the total quantities of a commodity supplied by a particular seller at different prices during a given period of time.	2. Market supply schedule is a tabular representation of the sum of the total quantities of a commodity supplied by all sellers at different prices during a given period of time.
3. Individual supply schedule indicates the direct relationship between the price and the quantity supplied.	3. Market supply schedule indicates the direct relationship between the price and the quantity supplied.

5. Supply curve :

(1) Curve is a graphical representation of supply schedule.

(2) Types of supply curves are explained in the following table :

Types of Supply Curve	
(A) Individual Supply Curve	(B) Market Supply Curve
1. Individual supply curve is a graphical representation of individual supply schedule.	1. Market supply curve is a graphical representation of market supply schedule.
2. Individual supply curve slopes upwards from the left to the right.	2. Market supply curve slopes upwards from the left to the right.
3. Individual supply curve indicates the direct relationship between the price and the quantity supplied.	3. Market supply curve indicates the direct relationship between the price and the quantity supplied.

6. Determinants of Supply :

The determinants of supply are explained in the following table :

Determinant of Supply	Explanation	Level of Supply
1. Price of Commodity	Low price of commodity	Less Supply
	High price of commodity	More Supply
2. State of Technology	Outdated technology	Less Supply
	Modern technology	More Supply
3. Cost of Production	More cost of production	Less Supply
	Less cost of production	More Supply
4. Infrastructural Facilities	Non-availability of infrastructural facilities	Less Supply
	Availability of infrastructural facilities	More Supply
5. Government Policy	Unfavourable government policy	Less Supply
	Favourable government policy	More Supply
6. Natural Conditions	Adverse natural conditions	Less Supply
	Favourable natural conditions	More Supply
7. Future Expectations about the Price	Expected rise in price in near future	Less Supply in Present Times
	Expected fall in price in near future	More Supply in Present Times
8. Other factors (industrial relations, availability of factors of production)	Other factors unfavourable	Less Supply
	Other factors favourable	More Supply

7. Law of Supply :

(1) The Law of Supply was propounded by **Dr. Alfred Marshall** in his famous book , 'Principles of Economics'. The Law of Supply explains the direct relationship between the price and the supply.

(2) *"Other things being constant, the higher the price of a commodity, greater is the quantity supplied and lower the price of a commodity, smaller is the quantity supplied."*

(3) The Law of Supply can be expressed symbolically as follows :

$$S_x = f(P_x)$$

Where, S_x stands for supply of a commodity x , f stands for function of and P_x stands for the price of a commodity x .

8. Assumptions of the Law of Supply :

Assumptions of the Law of Supply are explained in the following table :

Assumption of the Law of Supply	Reason/Explanation of the Assumption of the Law of Supply
1. Constant Cost of Production	Rise in the cost of production may lead to decrease in the supply at a constant price.
	Fall in the cost of production may lead to increase in the supply at a constant price.
2. Constant Technique of Production	Use of outdated technique of production may lead to decrease in the supply at a constant price.
	Use of modern technique of production may lead to increase in the supply at a constant price.
3. No Change in Weather Conditions	Unfavourable weather conditions may lead to decrease in the supply of agricultural goods at a constant price.
	Favourable weather conditions may lead to increase in the supply of agricultural goods at a constant price.
4. No Change in Government Policy	Unfavourable government policy may lead to decrease in the supply of goods at a constant price.
	Favourable government policy may lead to increase in the supply of goods at a constant price.
5. No Change in Transport Cost	Rise in the transport cost may lead to decrease in the supply of goods at a constant price.
	Fall in the transport cost may lead to increase in the supply of goods at a constant price.
6. Prices of Other Goods Remain Constant	Rise in the prices of other goods may lead to decrease in the supply of original commodity in question at its constant price.
	Fall in the prices of other goods may lead to increase in the supply of original commodity in question at its constant price.
7. No Future Expectations	Expected rise in price in near future may lead to decrease in the supply of a commodity in present times.
	Expected fall in price in near future may lead to increase in the supply of a commodity in present times.

9. Exceptions to the Law of Supply :

Exceptions to the Law of Supply are explained in the following table :

Exception to the Law of Supply	Explanation of Exception to the Law of Supply
1. Supply of Labour	Beyond certain wage level, labour supply remains low even at high price (wage rate)
2. Agricultural goods	The supply of agricultural goods cannot be increased overnight though their prices rise in short period of time.
3. Urgent Need for Cash	Due to urgent need for cash more quantities are sold at low price.
4. Perishable Goods	To avoid losses, more quantities of perishable goods are sold at low price.
5. Rare Goods	Rare goods are not sold in greater quantities even at a high price.

10. Variation in Supply :

Variation in supply is explained in the following table :

Variation in Supply	
(A) Expansion of Supply	(B) Contraction of Supply
1. A rise in supply caused by rise in the price while other factors remaining constant.	1. A fall in supply caused by fall in the price while other factors remaining constant.
2. The new equilibrium point of price and supply moves upwards from the left to the right on the same supply curve.	2. The new equilibrium point of price and supply moves downwards from the right to the left on the same supply curve.

11. Change in Supply :

Change in supply is explained in the following table :

Change in Supply	
(A) Increase in Supply	(B) Decrease in Supply
1. A rise in supply caused by favourable changes in other factors than price.	1. A fall in supply caused by unfavourable changes in other factors than price.
2. The new equilibrium point of price and supply shifts from the left to the right on the new supply curve.	2. The new equilibrium point of price and supply shifts from the right to the left on the new supply curve.

12. Concepts of Costs :

Various concepts of costs are explained in the following table :

(A) Total Cost	(B) Average Cost	(C) Marginal Cost
1. The total expenditure incurred by a firm on the factors of production required for the production of goods and services.	1. The per unit cost of production.	1. The net addition made to total cost by producing one more unit of output.
2. $TC = TFC + TVC$	2. $AC = \frac{TC}{TQ}$	2. $MC_n = TC_n - TC_{n-1}$

13. Concepts of Revenue :

Various concepts of revenue are explained in the following table :

(A) Total Revenue	(B) Average Revenue	(C) Marginal Revenue
The total sales proceeds of a firm by selling a commodity at a given price.	1. Revenue per unit of output sold.	1. The net addition made to total revenue by selling one more unit of output.
2. $TR = P \times Q$	2. $AR = \frac{TR}{TQ}$	2. $MR_n = TR_n - TR_{n-1}$

EXERCISE

1 Complete the following statements by choosing the correct alternatives: :

(1 Mark each)

*** [1]**

(1) When supply curve is upward sloping, its slope is

- (a) positive (b) negative
(c) first positive then negative (d) zero

(2) An upward movement along the same supply curve shows

- (a) contraction of supply
(b) decrease in supply
(c) expansion of supply
(d) increase in supply

(3) A rightward shift in supply curve shows

- (a) contraction of supply
(b) decrease in supply
(c) expansion of supply
(d) increase in supply

(4) Other factors remaining constant when less quantity is supplied only due to a fall in price, it shows

- (a) contraction of supply
(b) decrease in supply
(c) expansion of supply
(d) increase in supply

(5) Net addition made to the total revenue by selling an extra unit of a commodity is

- (a) total revenue
(b) marginal revenue
(c) average revenue
(d) marginal cost

Ans. (1) When supply curve is upward sloping, its slope is positive.

(2) An upward movement along the same supply curve shows expansion of supply.

(3) A rightward shift in supply curve shows increase in supply.

(4) Other factors remaining constant when less quantity is supplied only due to a fall in price, it shows contraction of supply.

(5) Net addition made to the total revenue by selling an extra unit of a commodity is marginal revenue.

[2]

(1) Total Revenue ÷ Number of Units sold = ...

- (a) Average Cost (b) Average Revenue
(c) Marginal Cost (d) Total Cost

(2) is the most important determinant of supply.

- (a) Price (b) Cost of production
(c) Technology (d) Government policy

(3) The Law of Supply represents the general tendency of

- (a) buyers (b) sellers
(c) government (d) labourers

(4) The most significant factor affecting the supply of agricultural goods is

- (a) government policies
(b) cost of production
(c) climatic conditions
(d) transport facilities

- (5) The supply curve
- slopes upwards from the left to the right
 - slopes downwards from the left to the right
 - slopes parallel to X-axis
 - slopes backwards

Ans. (1) Total Revenue $\div$ Number of Units sold = Average Revenue.

(2) Price is the most important determinant of supply.

(3) The Law of Supply represents the general tendency of sellers.

(4) The most significant factor affecting the supply of agricultural goods is climatic conditions.

(5) The supply curve slopes upwards from the left to the right.

2 Find the odd word : (1 Mark each)

- Clothes, Fans, Two wheelers, Eggs
- Rare photographs, Vegetables, Air conditioners, Historical coins
- Fruits, Fish, Flowers, Notebooks

Ans. (1) Eggs (2) Air conditioners (3) Notebooks.

* 3 Complete the correlation : (1 Mark each)

- Expansion of supply : Price rises : : Contraction of supply :
- Total Revenue : : : Average Revenue : $\frac{TR}{TQ}$
- Total Cost : $TFC + TVC$: : Average Cost :
- Demand curve : : : Supply curve : Upward
- : Change in Supply : : Other factors constant : Variation in Supply

Ans. (1) Price falls (2) $P \times Q$ (3) $\frac{TC}{TQ}$

- (4) Downward (5) Price constant.

4 Give economic terms : (1 Mark each)

- * (1) Cost incurred on fixed factor.
- * (2) Cost incurred per unit of output.
- * (3) Net addition made to the total cost of production

* (4) Revenue per unit of output sold

(5) Cost incurred on raw material.

Ans. (1) Fixed Cost (2) Average Cost (3) Marginal Cost (4) Average Revenue (5) Variable Cost.

5 Assertion and Reasoning Type Questions : (1 Mark each)

(1) **Assertion (A)** : Labour supply curve bends backward.

Reasoning (R) : Beyond certain wage level, workers prefer leisure to work.

Options : (1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(2) **Assertion (A)** : Perishable goods are exception to the Law of Supply.

Reasoning (R) : To avoid losses, perishable commodities are sold in greater quantities even at a lower price after a certain period of time.

Options : (1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

* (3) **Assertion (A)** : Expenditure incurred on purchasing machinery is variable cost.

Reasoning (R) : Expenditure incurred on varying factors is known as variable cost.

Options : (1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (2) (A) is false, but (R) is true.

6 Identify and explain the concepts from the given illustrations : (1 Mark each)

(1) Manohar was able to supply less paper to the market due to technical glitches in the paper making factory.

Ans. (A) Identified concept : Decrease in supply.

(B) Explanation of concept : A fall in the supply caused by unfavourable changes in the other factors than price is called decrease in supply.

(2) Due to tax relief, Pooja brought a large number of her cottage products to the market for sale.

Ans. (A) Identified concept : Increase in supply.

(B) Explanation of concept : A rise in the supply caused by favourable changes in the other factors than price is called increase in supply.

7 Distinguish between the following :

(2 Marks each)

* (1) **Stock and Supply : (Try This : Textbook Page 37)**

Ans.

Stock	Supply
1. Meaning	
Stock refers to the entire quantity of commodity which exists with the seller.	Supply refers to the quantity of a commodity offered for sale at a given price and at a point of time.
2. Interrelationship	
Stock can exceed supply or stock and supply can be same.	Supply and stock can be same. But supply can never exceed stock.

* (2) **Expansion of Supply and Increase in Supply :**

Ans.

Expansion of Supply	Increase in Supply
1. Meaning	
A rise in supply caused by rise in the price while other factors remaining constant is called expansion (extension) in supply.	A rise in supply caused by favourable changes in other factors than price is called increase in supply.
2. Equilibrium Point	
In expansion of supply, the new equilibrium point of price and supply moves upwards from the left to the right on the same supply curve.	In increase in supply, the new equilibrium point of price and supply shifts from the left to the right on the new supply curve.

* (3) **Contraction of Supply and Decrease in Supply :**

Ans.

Contraction of Supply	Decrease in Supply
1. Meaning	
A fall in supply caused by fall in price while other factors remaining constant is called contraction of supply.	A fall in supply caused by unfavourable changes in other factors than price is called decrease in supply.

2. Equilibrium point

In contraction of supply, the new equilibrium point of price and supply moves downwards from the right to the left on the same supply curve.

In decrease in supply, the new equilibrium point of price and supply shifts from the right to the left on the new supply curve.

* (4) Average Revenue and Average Cost :

Ans.

Average Revenue

Average Cost

1. Meaning

Average revenue refers to revenue per unit of output sold.

Average cost refers to the per unit cost of production.

2. Formula

Average revenue is calculated with the help of the following formula :

$$AR = \frac{TR}{TQ}$$

Where, AR = Average Revenue, TR = Total Revenue and TQ = Total Quantity of Output.

Average cost is calculated with the help of the following formula :

$$AC = \frac{TC}{TQ}$$

Where, AC = Average Cost, TC = Total Cost and TQ = Total Quantity of Output.

(5) Supply and Aggregate Supply :

Ans.

Supply

Aggregate Supply

1. Meaning

Supply refers to quantity of a commodity that a seller is willing and able to offer for sale at a particular price, during a certain period of time.

It refers to the minimum amount of sales proceeds which entrepreneurs expect to receive from the sale of output at a given level of employment.

2. Concept

Supply is a microeconomic concept.

Aggregate supply is macroeconomic concept.

8 Answer the following : (4 Marks each)

* (1) Explain the concept of total cost and total revenue.

Ans. [A] Total Cost :

(1) **Meaning** : Total cost is the total expenditure incurred by a firm on the factors of production required for the production of goods and services. Total cost is the sum of total fixed cost and total variable cost at various levels of output.

(2) **Formula** : Total cost is calculated as follows :
 $TC = TFC + TVC$ Where, TC = Total Cost, TFC = Total Fixed Cost and TVC = Total Variable Cost.

(a) **Total Fixed Cost (TFC)** : Total fixed costs are those expenses of production which are incurred on fixed factors such as land, machinery, etc.

(b) **Total Variable Cost (TVC)** : Total variable costs are those expenses of production which are incurred on variable factors such as labour, raw material, power, fuel, etc.

(3) **Example** : If a particular manufacturer has incurred a total fixed cost of ₹ 50,000 and a total variable cost of ₹ 40,000 for manufacturing 20 fans, the total cost can be calculated as follows :

$$TC = TFC + TVC$$

$$\therefore TC = 50,000 + 40,000$$

$$\therefore TC = 90,000$$

$$\therefore \text{Total Cost} = ₹ 90,000.$$

[B] Total Revenue :

(1) **Meaning** : Total revenue is the total sales proceeds of a firm by selling a commodity at a given price. It is the total income of a firm.

(2) Formula : Total revenue is calculated as follows :

$$\text{Total Revenue} = \text{Price} \times \text{Quantity}$$

(3) Example : If a particular manufacturer sells fans by charging ₹ 6000 per unit, the total revenue can be calculated as follows :

$$TR = P \times Q$$

$$\therefore TR = 6,000 \times 20$$

$$\therefore TR = 1,20,000$$

$$\therefore \text{Total Revenue} = ₹ 1,20,000.$$

(2) Explain the concept of marginal cost and marginal revenue.

Ans. [A] Marginal Cost :

(1) Meaning : Marginal cost is the net addition made to total cost by producing one more unit of output.

(2) Formula : Marginal cost is calculated as follows :

$$MC_n = TC_n - TC_{n-1}$$

Where, TC_n = Total cost of producing n units,
 TC_{n-1} = Total cost of producing previous unit of n unit.

(3) Example : If a particular manufacturer's total cost of producing 20 units of fan is ₹ 90,000 and total cost of producing 19 units of fan is ₹ 87,000 then marginal cost of producing 20th fan can be calculated as follows :

$$MC_n = TC_n - TC_{n-1}$$

$$\therefore MC_n = TC_{(20 \text{ units})} - TC_{(19 \text{ units})}$$

$$\therefore MC_n = 90,000 - 87,000$$

$$\therefore MC_n = 3,000$$

$\therefore$ Marginal cost of producing n^{th} (20th unit) of fan is ₹ 3,000.

[B] Marginal Revenue :

(1) Meaning : Marginal revenue is the net addition made to total revenue by selling an extra unit of the commodity.

(2) Formula : Marginal revenue is calculated as follows :

$$MR_n = TR_n - TR_{n-1}$$

Where, TR_n = Total Revenue of n units, TR_{n-1} = Total revenue of previous unit of n unit.

(3) Example : If a particular manufacturer receives ₹ 1,20,000 after selling 20 units of fan and receives ₹ 1,16,000 after selling 19 units of fan, then marginal revenue received by selling 20th fan can be calculated as follows :

$$MR_n = TR_n - TR_{n-1}$$

$$\therefore MR_n = TR_{(20 \text{ units})} - TR_{(19 \text{ units})}$$

$$\therefore MR_n = 1,20,000 - 1,16,000$$

$$\therefore MR_n = 4,000$$

$\therefore$ Marginal revenue received after selling n^{th} (20th unit) of fan is ₹ 4,000.

*** (3) Explain the determinants of supply.**

Ans. For the answer, refer to Q. 12 (5) in Answer the following questions in detail.

(Note : Any four points are expected in answer.)

(4) Explain the variation in supply.

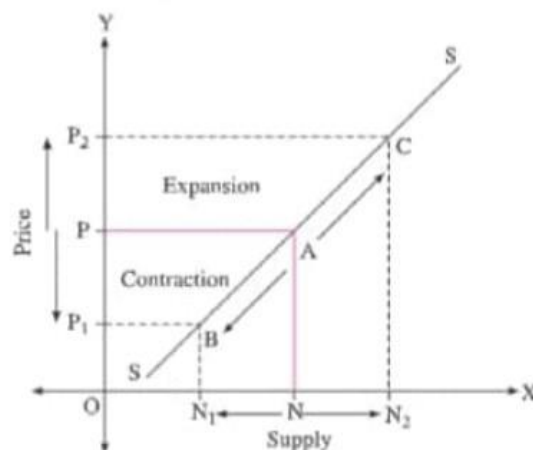
Ans. The variation in supply can be explained with the help of the following points :

(1) Meaning : Other factors remaining constant, the rise or fall in supply caused due to the change in the price of a commodity, is called variation in supply. Variation in supply is of the following two types :

(2) Expansion in supply : Other factors remaining constant, a rise in supply due to a rise in the price of a commodity, is called expansion in supply.

(3) Contraction in supply : Other factors remaining constant, a fall in supply due to a fall in the price of a commodity, is called contraction in supply.

(4) Diagram : Variation in supply is explained in the following diagram :



From the diagram, it can be seen that as price rises from OP to OP_2 , supply rises from ON to ON_2 . Thus, distance NN_2 indicates expansion in supply. In expansion in supply, the new equilibrium point of price and supply moves upwards from the left to the right i.e. from A to C on the same supply curve.

Similarly, as price falls from OP to OP_1 , supply falls from ON to ON_1 . Thus, distance NN_1 indicates contraction in supply. In contraction in supply, the new equilibrium point of price and supply moves downwards from the right to the left, i.e. from A to B on the same supply curve.

(5) Explain the change in supply.

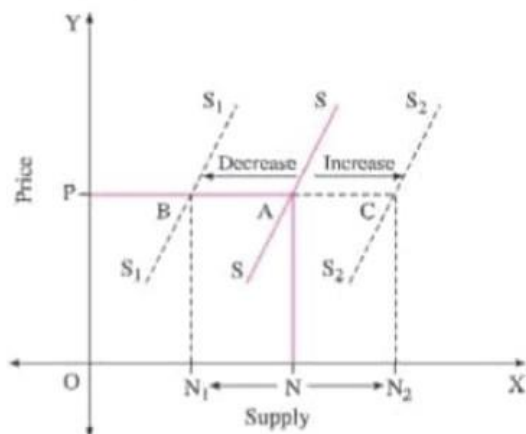
Ans. The change in supply can be explained with the help of the following points :

(1) **Meaning** : Price remaining constant, the rise or fall in supply caused due to the change in other factors is called change in supply. Change in supply is of the following two types :

(2) **Increase in supply** : Price remaining constant, a rise in supply due to favourable changes in the other factors, is called increase in supply.

(3) **Decrease in supply** : Price remaining constant, a fall in supply due to unfavourable changes in the other factors, is called decrease in supply.

(4) **Diagram** : Change in supply is explained in the following diagram :



From the diagram, it can be seen that at original price, i.e. OP supply rises from ON to ON_2 due to favourable changes in the other factors such as use of modern machinery, fall in the production cost, etc. The distance NN_2 indicates increase in supply. In increase in supply, the new equilibrium point of price and supply shifts from A to C , i.e. from the

left to the right from original supply curve (SS) to new supply curve (S_2S_2).

Similarly, at original price, i.e. OP supply falls from ON to ON_1 due to unfavourable changes in the other factors such as use of outdated machinery, rise in the production cost, etc. The distance NN_1 indicates decrease in supply. In decrease in supply, the new equilibrium point of price and supply shifts from A to B , i.e. from the right to the left from original supply curve (SS) to new supply curve (S_1S_1).

(6) Explain the concept of market supply schedule with suitable example.

Ans. (1) Market supply schedule is a table showing various quantities of a commodity offered for sale by all the sellers in the market at different prices and during a given period of time.

(2) It is obtained by the horizontal summation of supply of all individual sellers at various prices at a given period of time.

(3) Market Supply Schedule :

Price (₹)	A's SS + B's SS + C's SS =	Market Supply (Units Per Day)
1	$10 + 20 + 30 =$	60
2	$20 + 30 + 40 =$	90
3	$30 + 40 + 50 =$	120
4	$40 + 50 + 60 =$	150
5	$50 + 60 + 70 =$	180

(4) From the market supply schedule it can be seen that the price and supply are directly related to each other. From the schedule, it can also be seen that at a lesser price (₹ 1) market supply is less (60 units). Similarly, at a higher price (₹ 5) market supply is more (180 units).

9 Solve the following : (4 Marks each)

(1) Find Out (Textbook Page 43)

If a firm produces 600 units of a commodity in a day and incurs a total cost of ₹ 30,000. Calculate the average cost.

Ans. The average cost can be calculated using the following formula :

$$AC = \frac{TC}{TQ} = \frac{30,000}{600} = 50$$

∴ Average cost is ₹ 50.

(2) Find Out (Textbook Page 44)

If a firm sells 400 units of a commodity at ₹ 10 per unit. Calculate TR and AR.

Ans. (A) Total Revenue : The Total Revenue can be calculated using the following formula :

$$TR = P \times Q$$

$$\therefore TR = 10 \times 400$$

$$\therefore TR = 4,000$$

$$\therefore \text{Total Revenue} = ₹ 4,000.$$

(B) Average Revenue : The Average Revenue can be calculated using the following formula :

$$AR = \frac{TR}{TQ}$$

$$\therefore AR = \frac{4000}{400} = 10$$

$$\therefore \text{Average Revenue} = ₹ 10.$$

10 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

(1) There is difference between stock and supply.

Ans. Yes, I agree with this statement.

Reasons :

(1) Stock refers to the entire quantity of commodity, which exists with the seller. It is the potential supply. Supply refers to the quantity of a commodity offered for sale at a given price and at a point of time.

(2) Stock depends upon production, while supply depends on the stock and the price.

(3) Stock is a source whereas supply is a flow. Stock may exceed the supply. For perishable goods, the stock and supply can be same. However, supply can never exceed the stock.

Thus, there is difference between stock and supply.

(2) Price is the only determinant of supply.

Ans. No, I disagree with this statement.

Reasons :

(1) Supply gets determined by many other factors. Price is the most important determinant of supply. Price and supply are directly related to each other.

(2) Besides price, the other factors such as cost of production, state of technology, government policies, nature of market, prices of other goods, infrastructural facilities, exports and imports, future expectation, natural conditions, etc. also determine the supply of goods.

(3) For example, due to the use of modern technology, the supply tends to increase. On the other hand, due to the use of outdated technology, supply tends to decrease. Similarly, the supply of agricultural goods gets largely determined by natural conditions.

Therefore, price is not the only determinant but is one of the determinants of supply.

(3) Supply curve of labour bends backwards.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 12 (3) (1) in Answer the following questions in detail.

11 Observe the given table / diagram and answer the questions : (4 Marks each)

* **(A) Supply schedule of chocolates :**

Price (₹)	Quantity Supplied (in units)
10	200
15	.....
20	300
25	350
30	.....
35	.....
40	.....

Questions :

- Complete the above supply schedule.
- Draw a diagram for the given supply schedule.
- State the relationship between price and quantity supplied.

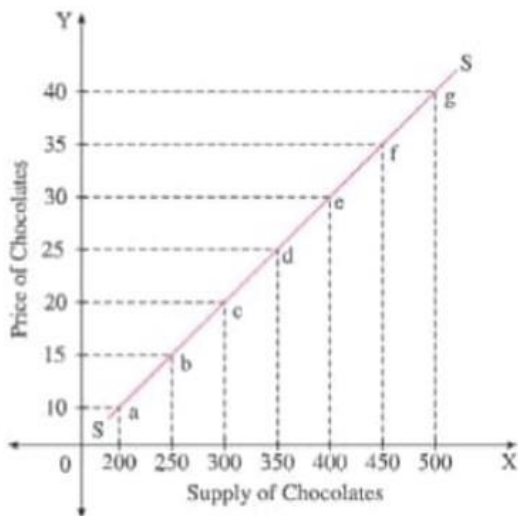
Ans.

(1)

Price (₹)	Quantity Supplied (in units)
10	200
15	250
20	300
25	350

30	400
35	450
40	500

(2)



Explanation of diagram : In the above diagram Y-axis represents the price of the chocolates and X-axis represents supply of chocolates. From the above diagram it can be seen that, as price of chocolates rises from ₹ 10 to ₹ 40, the supply of chocolates rises from 200 units to 500 units. Similarly, as price of chocolates falls from ₹ 40 to ₹ 10, the supply of chocolates falls from 500 units to 200 units. Therefore, supply curve of chocolates slopes upwards from the left to the right.

(3) Relationship between price and quantity supplied : From the above supply schedule and supply curve of chocolates, it can be seen that, At low price of chocolates i.e. at ₹ 10, the supply of chocolates is also less i.e. 200 units. Similarly at high price of chocolates i.e. at ₹ 40, the supply of chocolates is also high i.e. 500 units. Thus, it can be seen that the price of chocolates and quantity supplied of chocolates have direct relation between them.

*** (B) Observe the market supply schedule of potatoes and answer the following questions :**

Price (₹)	Firms			Market Supply (Kg)
	"A"	"B"	"C"	
1	.....	20	45	100
2	37	30	45	.....
3	40	.....	55	135
4	44	50	.....	154

Questions :

(1) Complete the quantity of potato supplied by the firms to the market in the above table.

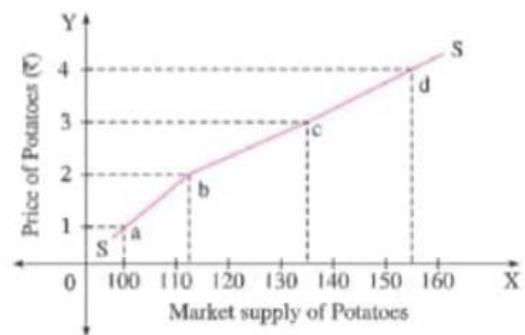
(2) Draw the market supply curve from the schedule and explain it.

Ans.

(1) Market supply schedule of potatoes showing the quantities supplied by various firms :

Price (₹)	Firms			Market Supply (Kg)
	"A"	"B"	"C"	
1	35	20	45	100
2	37	30	45	112
3	40	40	55	135
4	44	50	60	154

(2)



Explanation of diagram : In the diagram, Y-axis represents the price of the potatoes and X-axis represents market supply of potatoes. From the above diagram it can be seen that, as price of potatoes rises from ₹ 1 to ₹ 4, the supply of potatoes rises from 100 Kg to 154 Kg. Similarly, as price of potatoes falls from ₹ 4 to ₹ 1, the market supply of potatoes falls from 154 Kg to 100 Kg. Therefore, market supply curve of potatoes slopes upwards from the left to the right.

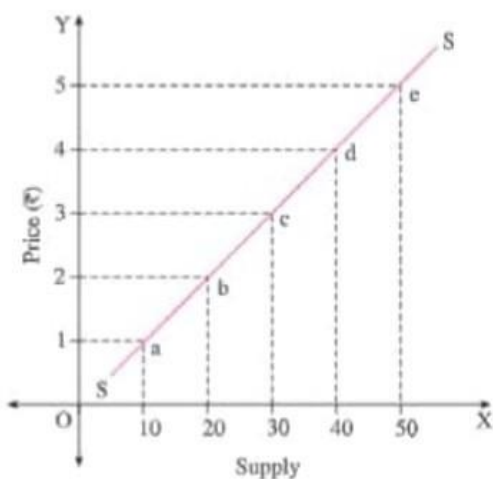
(C) Try this (Textbook page 39)

Draw a supply curve with the help of a hypothetical supply schedule.

Ans. (1) Hypothetical supply schedule :

Price (₹)	Quantity Supplied (in units)
1	10
2	20
3	30
4	40
5	50

(2) Supply curve with the help of a hypothetical supply schedule :



**12 Answer the following questions in detail :
(8 Marks each)**

(1) State and explain the Law of Supply.

Ans. The Law of Supply can be stated and explained with the help of the following points :

(1) Law of Supply : The Law of Supply was propounded by Dr. Alfred Marshall in his famous book, 'Principles of Economics'. The Law of Supply explains the direct relationship between the price and the supply.

(2) Statement of Law : "Other things being constant, the higher the price of a commodity, greater is the quantity supplied and lower the price of a commodity, smaller is the quantity supplied."

(3) Symbolic Representation : The Law of Supply can be expressed symbolically as follows :

$$S_x = f(P_x)$$

Where, S_x stands for supply of a commodity x , f stands for function of and P_x stands for the price of a commodity x .

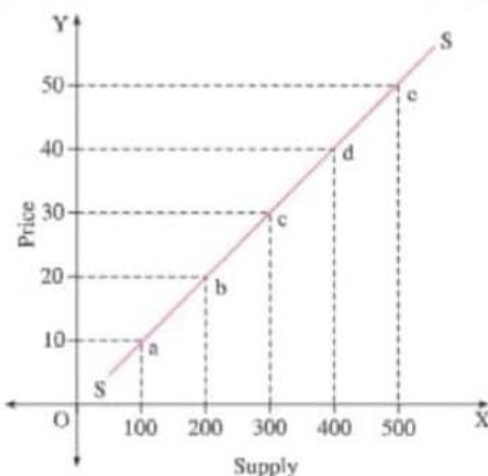
(4) Individual Supply Schedule : The Law of Supply can be explained with the help of the following individual supply schedule :

Price (₹)	Quantity Supplied (in units)
10	100
20	200
30	300
40	400
50	500

(5) Explanation of Individual Supply

Schedule : From the above individual supply schedule it can be observed that at a lesser price (₹10) less units of commodity x are supplied (100 units). Similarly, at a higher price (₹50) more units of commodity x are supplied (500 units). Thus, there exists a direct relationship between the price and the quantity supplied.

(6) Individual Supply Curve : The law of Supply can be explained with the help of the following diagram of the individual supply curve :



(7) Explanation of Individual Supply Curve :

In the above diagram, Y-axis represents price of a commodity x and X-axis represents supply of a commodity x . From the above diagram it can be seen that the supply curve, i.e. SS slopes upwards from the left to the right. The supply curve has positive slope as there is direct relationship between the price and the supply.

(2) Explain the assumptions of the Law of Supply.

Ans. The following are the assumptions of the Law of Supply :

(1) Constant cost of production : If the cost of production rises, producer's profit margin decreases. In such case, supply may decrease at a constant price. Similarly, if the cost of production falls, producer's profit margin increases. In such case, supply may increase at a constant price. In such conditions, the Law of Supply does not hold good. Therefore, to verify the law, it is assumed that the cost of production remains constant.

(2) Constant technique of production : Improved technique of production may lead to

an increase in production. This in turn may lead to increase in the supply at a constant price. Similarly, outdated technique of production may lead to decrease in production. This in turn, may lead to decrease in supply at a constant price. In such conditions, the Law of Supply becomes invalid. Therefore, to verify the law, it is assumed that techniques of production remain constant.

(3) No change in weather conditions : Natural calamities like floods, earthquakes, etc. may decrease supply at constant prices. Similarly, due to favourable weather conditions production of agricultural goods may increase which may increase supply of agricultural goods at constant prices. Therefore, to verify the law it is assumed that there is no change in the weather conditions.

(4) No change in Government policy : Increased taxes decrease the profit margin of the sellers. Therefore supply may decrease even at high price. Similarly, decreased taxes increases the profit margin of sellers. Therefore, supply may increase even at lower price. Similarly, government's financial assistance to particular industry may increase the supply of goods at a constant price. Therefore, to verify the law, it is assumed that government policies like taxation policy, trade policy, etc. remain unchanged.

(5) No change in transport cost : Speedy transportation facilities saves the time and cost of transporting goods. This in turn may lead to increase in supply at constant prices. Similarly, slow transportation facilities increases the time and cost of transporting goods. This in turn may lead to decrease in supply at constant prices. Therefore to verify the law, it is assumed that there is no change in transport cost.

(6) Prices of other goods remain constant : If the prices of other products increases, the producer may transfer his resources to the production of these products. This in turn may lead to decrease in supply of the original product in question at its constant price. In such situation the Law of Supply will not hold true. Therefore, to verify the law, it is assumed that prices of other goods remain constant.

(7) No future expectations : If the seller expects the price of a good to rise in the near future, he may not supply more of a good even if its current price is high and vice versa. Thus, the future expectations regarding the change in the price make the law inapplicable. Therefore, the law assumes that the sellers do not expect future changes in the price of the product.

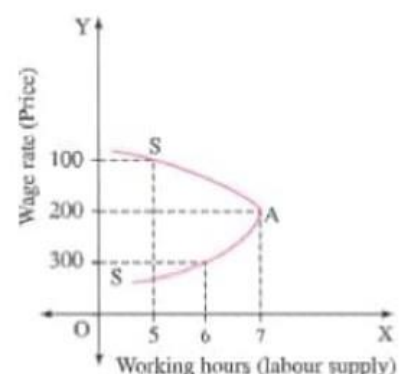
(3) Explain the exceptions to the Law of Supply.

Ans. The exceptions to the Law of Supply are as follows :

(1) Labour supply : In the initial stages, labour supply increases as wage rate increases. However, at a later stage, workers would prefer leisure to work. They prefer to earn same amount of income by working for less hours.

Therefore, in the initial stage, the labour supply curve slopes upwards from the left to the right. However, in the later stage, the labour supply curve bends backward. This is explained in the following schedule and diagram :

Wage Rate (₹) (Per Hour)	Hours of Work (Per Day)
100	5
200	7
300	6



From the schedule and diagram it can be seen that in the initial stages as wage rate rises from ₹ 100 to ₹ 200, the supply of labour also rises from 5 hours to 7 hours. However, when the wage rate rises from ₹ 200 to ₹ 300, the supply of labours do not rise further; rather it is reduced from 7 hours to 6 hours. Thus, after the wage level ₹ 200, the

the other hand, if the prices are expected to fall in the near future, the producer sells more though current prices are low.

(8) Other factors : Other factors like nature of the market, relative prices of other goods, export and imports, industrial relations, availability of

factors of production, etc. determine the supply of various goods. For example, availability of factors of production increases the supply. On the other hand, shortage of factors of production decreases the supply.

* * *

supply curve slopes backwards from the point A towards Y-axis indicating that at higher prices fewer labour hours are supplied.

(2) Agricultural goods : Agricultural goods require suitable climatic conditions and sufficient period of growth. Therefore, the supply of agricultural goods cannot be increased overnight though their prices rise. Similarly, due to favourable conditions, the supply of agricultural goods may rise even at their constant prices. Therefore, in case of agricultural goods the law is inapplicable. Therefore agricultural goods are exception to the Law of Supply.

(3) Urgent need for cash : If a seller needs cash urgently he is forced to sell more even at less prices/below market prices. Therefore, the sale of goods influenced by the need for cash is considered as an exception to the Law of Supply.

(4) Perishable goods : Perishable goods like vegetables, flowers, eggs, etc. cannot be stored for a long period of time. Seller has to bear a huge loss, if perishable goods do not get sold. Therefore, in case of perishable goods, the supplier would offer to sell more quantities at lower prices to avoid losses. Therefore, the sale of perishable goods at low price is considered as an exception to the Law of Supply.

(5) Rare goods : The seller shows less willingness to sell the rare and precious articles like rare paintings, old coins, antique goods, etc. even though their prices are high. The supply of rare articles remains unchanged though their prices are high. Therefore, rare articles are exceptions to the Law of Supply.

*** (4) State and explain the Law of Supply with exceptions.**

Ans. [A] Law of Supply : For the Law of Supply, refer to Q. 12 (1).

[B] Exceptions to Law of Supply : For the exceptions of the Law of Supply, refer to (3) from the same question set.

(5) Explain the determinants of supply.

Ans. The determinants of supply are as follows :

(1) Price : Price is the most important factor influencing the supply of a commodity. Price and supply are directly related to each other, i.e. more is supplied at a higher price and less is supplied at a lower price.

(2) State of technology : Technological improvements reduce the cost of production, which lead to an increase in production and supply. On the other hand, traditional and outdated technology reduced the supply.

(3) Cost of Production : Cost of production and supply have inverse relation. For example, if the price of factors of production increases, the cost of production also increases. This in turn decreases the profit margin of supplier and this in turn decreases the supply. On the other hand, fall in the cost of production increases the supply.

(4) Infrastructural facilities : Infrastructure in the form of transport, communication, power, etc. influences the production process as well as supply. Inadequate infrastructural facilities decrease the supply and vice versa.

(5) Government policy : Government policies on taxation, subsidies, industrial policies, etc. may encourage or discourage production and supply depending upon government policy measures. For example, government subsidies tend to increase the supply.

(6) Natural conditions : The supply of agricultural products depends on the natural conditions. For example, a good monsoon and favourable climatic condition will produce a good harvest, so the supply of agricultural products will increase. On the other hand, unfavourable climatic conditions will lead to poor harvest and thus to a decrease in supply of agricultural goods.

(7) Future expectations about price : If the prices are expected to rise in the near future, the producer may withhold the stock. This will reduce the supply though the current prices are high. On



FORMS OF MARKET

IMPORTANT CONCEPTS

- **Market** : Market is a network of dealings between potential buyers and the potential sellers.
- **Equilibrium Price** : The price at which the quantity demanded is equal to the quantity supplied is known as the equilibrium price.
- **Industry** : An industry means a number of firms producing identical products which are perfect substitutes to each other.
- **Group** : A group means a number of firms producing differentiated products which are closely related to each other.

CHAPTER AT A GLANCE

1. Introduction :

(1) According to **Augustin Cournot**, "Economists understand the term market, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such a close contact with one another that the prices of the same goods tend to equality easily and quickly."

(2) At any point of time, a market will exist if there are : (1) Buyers and sellers (2) A product or service to be bought and sold (3) Price of the product (4) Close contact between buyers and sellers (5) Knowledge about market.

2. Classification of Markets :

(A) On the Basis of Place : The classification of markets on the basis of place is explained in the following table :

On the Basis of Place		
(a) Local Market	(b) National Market	(c) International Market
A market in which goods and services are traded in which they are produced.	A domestic market in which goods and services are traded within the national borders.	A worldwide market in which goods and services are traded across the national borders.

(B) On the Basis of Time : The classification of markets on the basis of time is explained in the following table :

On the Basis of Time			
(a) Very Short Period	(b) Short Period	(c) Long Period	(d) Very Long Period
1. A period from few hours to one week	1. A period from one week to one year	1. A period from one year to five years	1. A period of more than five years
2. Supply cannot be increased.	2. Supply can be increased up to some extent.	2. Supply can be increased up to a measurable extent.	2. Supply can be increased fully.

(C) On the Basis of Competition : The classification and features of markets on the basis of competition are explained in the following table :

Classification and Features of Markets on the Basis of Competition			
Imperfect Competition			Perfect Competition
(a) Monopoly	(b) Oligopoly	(c) Monopolistic Competition	
1. Single seller	1. Few sellers	1. Many sellers	1. Large number of sellers
2. Large number of buyers	2. Large number of buyers	2. Large number of buyers	2. Large number of buyers
3. No need of selling cost	3. Selling cost is essential.	3. Selling cost is essential.	3. Absence of selling cost
4. Restrictions on entry	4. Restrictions on entry and free exit	4. Free entry and free exit	4. Free entry and free exit
5. Unique product	5. Identical product or Differentiated product	5. Differentiated product	5. Identical product
6. Cross elasticity of demand with respect to change in price is zero.	6. Cross elasticity of demand with respect to change in the price is less.	6. Cross elasticity of demand with respect to change in price is more.	6. Cross elasticity of demand with respect to change in the price is infinite.
7. Price discrimination is possible.	7. Control over the price by few firms	7. Similar price	7. Single price
	8. Interdependence		8. Perfect knowledge of market
	9. Uncertainty		9. Perfect mobility of factors of production
			10. No government intervention

3. Price Determination Under Perfect Competition :

The price determination under perfect competition is explained with the help of the following table :

Price	Relation between the market demand and market supply	Condition of market demand and market supply	Acceptance/Rejection of Price
Less	Market Demand > Market Supply	The condition of excess market demand	Price is accepted by buyers but rejected by sellers
Equilibrium Price	Market Demand = Market Supply	The condition of equilibrium between market demand and market supply	Price is accepted by buyers as well as sellers
More	Market Demand < Market Supply	The condition of excess market supply	Price is accepted by sellers but rejected by buyers

4. Types of Monopoly :

The types of monopoly are explained with the help of the following table :

Type of Monopoly	Explanation
1. Private Monopoly	Monopoly created by an individual or a private body, profit oriented, for example, Tata Group.
2. Public Monopoly	Monopoly created by the government, welfare oriented, for example, Indian Railways.
3. Legal Monopoly	The monopoly emerging on account of legal provisions of government, for example, monopoly emerging on account of patent.
4. Natural Monopoly	The monopoly emerging on account of natural conditions, for example, Tea of Assam.
5. Simple Monopoly	A monopoly in which monopolists charge person wise, place wise, time wise and use wise uniform price for the same product.
6. Discriminating Monopoly	A monopoly in which monopolists charge person wise, place wise, time wise and use wise different prices for the same product.
7. Voluntary Monopoly	A monopoly voluntarily created by some monopolists by coming together to avoid cut-throat competition.

EXERCISE

1 Complete the following statements by choosing the correct alternatives :

(1 Mark each)

[1]

* (1) In economic sense, market includes following activities :

- (a) The place where the goods are sold and purchased
- (b) The arrangements through which buyers and sellers come in close contact with each other directly or indirectly
- (c) A shop where goods are sold
- (d) All of the above

Options : (1) *a and b* (2) *b and c*
 (3) *a, b and c* (4) *only d*

* (2) Classification of markets on the basis of place :

- (a) Local market, National market, International market
- (b) Very short period market, Local market, National market
- (c) Short period market, National market, International market
- (d) Local market, National market, Short period market

Options : (1) *a, b and c* (2) *b, c and d*
 (3) *only a* (4) *a and d*

* (3) Homogeneous product is the feature of this market :

- (a) Monopoly
- (b) Monopolistic competition
- (c) Perfect competition
- (d) Oligopoly

Options : (1) *c and d* (2) *a, b and c*
 (3) *a, c and d* (4) *only c*

* (4) Under perfect competition, sellers are :

- (a) Price makers
- (b) Price takers
- (c) Price discriminators
- (d) None of these

Options : (1) *a, b and c* (2) *only b*
 (3) *only c* (4) *a and c*

(5) Product differentiation is possible in the following market :

- (a) Perfect competition
- (b) Monopoly
- (c) Monopolistic competition
- (d) All of the above

Options : (1) a and b (2) only b
(3) only c (4) only d

Ans. (1) (4) only d (2) (3) only a (3) (4) only c
(4) (2) only b (5) (3) only c.

[2]

Note : The activity given in 'Find Out' on Page 50 of the Textbook is included here with answers by rewording it as per the question type of new paper pattern.

(1) Tea in Assam is an example of the following type of monopoly :

- (a) Public monopoly and Voluntary monopoly
- (b) Natural monopoly
- (c) Discriminating monopoly
- (d) None of these

Options : (1) only a (2) only b
(3) b and c (4) only d

(2) Atomic energy is an example of the following type of monopoly -

- (a) Discriminating monopoly and Voluntary monopoly
- (b) Natural monopoly
- (c) Public monopoly
- (d) All of the above

Options : (1) only a (2) b and c
(3) only c (d) only d

(3) Logo of a commercial bank is an example of the following type of monopoly -

- (a) Public monopoly
- (b) Natural monopoly
- (c) Legal monopoly
- (d) None of these

Options : (1) only a (2) b and c
(3) only c (4) only d

Ans. (1) (2) only b (2) (3) only c (3) (3) only c.

2 Find the odd word : (1 Mark each)

[1]

* (1) Selling cost : Free gifts, Advertisement hoardings, Window display, Patents.

* (2) Market structure on the basis of competition : Monopoly, Oligopoly, Very Short Period Market, Perfect Competition.

* (3) Feature of monopoly : Price maker, Entry barriers, Many sellers, Lack of substitutes.

* (4) Legal monopoly : Patent, OPEC, Copyright, Trade mark.

(5) Market structure on the basis of place : Local market, Oligopoly, National market, International market.

Ans. (1) Patents (2) Very Short Period Market (3) Many sellers (4) OPEC (5) Oligopoly.

[2]

Note : The activity given in 'Find Out' on Page 51 of the textbook is included here with answers by rewording it as per the question type of new paper pattern.

(1) Close substitutes for Gemini oil : Saffola oil, Fortune oil, Butter, Patanjali oil.

(2) Close substitutes for Colgate toothpaste : Meswak toothpaste, Tobacco, Babul toothpaste, Vicco toothpaste.

(3) Close substitutes to Red Label tea : Wagh Bakri tea, Society tea, Lipton tea, Lemon juice.

(4) Close substitutes to Bru Coffee : Buttermilk, Nescafe coffee, Tata coffee, Starbucks coffee

(5) Close substitute to Activa two wheeler : Jupiter two wheeler, Bicycle, Suzuki two wheeler, Hero Pleasure two wheeler.

Ans. (1) Butter (2) Tobacco (3) Lemon juice (4) Buttermilk (5) Bicycle.

3 Complete the correlation : (1 Mark each)

* (1) Perfect competition : Free entry and exit : : ; Barriers to entry

* (2) Price taker : : : Price maker : Monopoly

* (3) Single price : Perfect competition : : Discriminated prices :

(4) Wheat of Punjab : Natural monopoly : : Indian Railways :

(5) : Monopolistic competition : : Industry : Perfect competition

Ans. (1) Monopoly (2) Perfect competition (3) Monopoly (4) Public monopoly (5) Group.

*** 4 Give economic terms : (1 Mark each)**

- (1) The market where there are few sellers.
- (2) The point where demand and supply curve intersect.
- (3) The cost incurred by the firm to promote sales.
- (4) Number of firms producing identical product.
- (5) Charging different prices to different consumers for the same product or services.

Ans. (1) Oligopoly (2) equilibrium point
 (3) Selling cost (4) Industry (5) Price discrimination.

5 Assertion and Reasoning Type Question : (1 Mark each)

(1) Assertion (A) : In monopoly, consumer wise price can be discriminated.

Reasoning (R) : Indian Railways charges full fare for passengers in the age group of 12 to 58 years and gives 50 per cent discount in fare for children between the age group of 5 to 12 years.

- Options :** (1) (A) is true, but (R) is false.
 (2) (A) is false, but (R) is true.
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

(2) Assertion (A) : In monopoly, use wise price can be discriminated.

Reasoning (R) : In India, the gas cylinder is priced the same for domestic and commercial use.

- Options :** (1) (A) is true, but (R) is false.
 (2) (A) is false, but (R) is true.
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (1) (A) is true, but (R) is false.

(3) Assertion (A) : If a particular seller from perfect competition raises the price of a product, the consumer can buy the same product from any of the many other sellers in the market.

Reasoning (R) : In perfect competition, the cross elasticity of demand with respect to change in the price is infinite.

Options : (1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

6 Identify and explain the concepts from the given illustrations : (1 Mark each)

(1) Ramakant charged higher fees at computer training centres in urban areas and lower fees at computer training centers in rural areas.

Ans. (A) Identified concept : Place wise price discrimination.

(B) Explanation of concept : In a discriminating monopoly, a monopolist can charge place wise different prices to same product or same service.

Such price discrimination is known as place wise price discrimination.

(2) The Indian Railways has decided to levy higher fares on the new route from 12 noon to 8 am and lower fares from 8 am to 12 noon.

Ans. (A) Identified concept : Time wise price discrimination.

(B) Explanation of concept : In a discriminating monopoly, a monopolist can charge time wise different prices for same product or same service. Such price discrimination is known as time wise price discrimination.

7 Distinguish between the following :**(2 Marks each)****(1) Perfect Competition and Monopoly :**

Perfect Competition	Monopoly
1. Meaning	
A market where a large number of sellers sell homogeneous product and for which there are a large number of buyers is known as perfect competition.	A market where a single seller sells his unique product and for which there are a large number of buyers is known as monopoly.
2. Control over price	
In perfect competition, the seller has no control over the market supply, so he is the price taker.	In monopoly, the seller has total control over the market supply, so he is the price maker.

(2) Natural Monopoly and Public Monopoly :

Natural Monopoly	Public Monopoly
1. Meaning	
The monopoly that emerges due to availability of natural resources as well as some natural conditions is known as natural monopoly.	The monopoly that emerges due to sole ownership of the supply of goods or services by the government is known as public monopoly.
2. Creation	
Natural monopoly is created by the tactful utilisation of the available natural resources or natural climatic conditions.	Public monopoly is created by restricting the production and distribution rights of the goods and services only to the public sector.

(3) Natural Monopoly and Legal Monopoly :

Natural Monopoly	Legal Monopoly
1. Meaning	
The monopoly that emerges due to availability of natural resources as well as some natural conditions is known as natural monopoly.	The monopoly that emerges due to the legal provisions of the government is known as legal monopoly.
2. Creation	
Natural monopoly is created by the tactful utilisation of the available natural resources or natural climatic conditions.	Legal monopoly is created by use of patents, copyrights, trademarks, etc.

(4) Perfect Competition and Monopolistic Competition :

Perfect Competition	Monopolistic Competition
1. Meaning	
A market where a large number of sellers sell homogeneous product at a single price is known as perfect competition.	A market where many sellers sell differentiated products at different prices is known as monopolistic competition.

2. Selling cost

In perfect competition, a seller does not have to incur selling cost.

In monopolistic competition, a seller has to incur selling cost.

(5) Very Short Period and Very Long Period :

Very Short Period	Very Long Period
1. Meaning	
Very short period is a period in which inputs cannot be varied and so supply cannot be changed .	Very long period is a period in which all inputs can be varied and so supply can be changed fully.
2. Duration	
Very short period is a period from few hours to one week	Very long period is a period of more than five years.

8 Answer the following : (4 Marks each)*** (1) Explain the types of monopoly.**

Ans. For the answer, refer to Q. 11 (4) in Answer the following questions in brief.

(Note : Any four points are expected in answer.)

*** (2) Explain the features of oligopoly.**

Ans. For the answer, refer to Q. 11 (5) in Answer the following questions in brief.

(Note : Any four points are expected in answer.)

(3) Explain the concept of market.

Ans. (1) Market is generally understood as a particular place or locality where goods are sold and purchased.

(2) But, in economics, at any point of time, a market will exist if there are : (i) Buyers and sellers (ii) A product or service to be bought and sold (iii) Price of the product (iv) Close contact between buyers and sellers and (v) Knowledge about market.

(3) Thus, market refers to an arrangement through which buyers and sellers come in contact with each other directly or indirectly and exchange of goods and services takes place among them. It is a network of dealings between potential buyers and potential sellers.

(4) According to Augustin Cournot, "Economists understand the term market, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such a close contact with one

another that the prices of the same goods tend to equality easily and quickly."

(4) What is meant by market? Explain the types of markets on the basis of place.

Ans. (A) Meaning of Market : Market is a network of dealings between potential buyers and potential sellers.

(B) Types of markets on the basis of place : The types of markets on the basis of the place are as follows :

(1) Local Market : Local market is a market in which sellers sell and consumers buy a product in the region or area in which it is produced.

(2) National Market : National market is a domestic market in a given country. It is a market in which buyers and seller trade goods and services within the national borders. Each national market is governed by the regulation of its own country.

(3) International Market : International market is a worldwide (global) market in which buyers and sellers trade in goods and services across the national borders. International market is governed by the international regulations.

(5) Explain the types of markets on the basis of time.

Ans. The types of markets on the basis of the place are as follows :

(1) Very Short Period : Very short period is a period in which supply is fixed and price is determined by the demand. It is a time period of a few days to few weeks. The supply of commodity cannot be increased in very short period.

(2) Short Period : Short period is a period of less than one year. In this period, firms can only make adjustments in inputs like labour to increase the supply of goods and services. In short period supply can be increased to some extent.

(3) Long Period : Long period is a period of time in which all factors of production and costs are variable. In the long run firms can adjust all types of costs. It is a period of few years, generally up to five years. In long period, supply can be increased to a measurable extent.

(4) Very Long Period : Very long period is a period of time in which firms can vary all inputs fully. It is a period of more than five years. In very long period, supply can be increased fully.

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

(1) Perfect competition means monopolistic competition.

Ans. No, I disagree with this statement.

Reasons :

(1) In perfect competition, there are large number of sellers. In monopolistic competition, there are fairly large number of sellers, but they are smaller than that in a perfect competitive market.

(2) In perfect competition, all sellers sell homogeneous product. On the other hand, in monopolistic competition, all sellers sell differentiated products.

(3) In perfect competition, selling cost is not incurred by the sellers. On the other hand, in monopolistic competition, all sellers incur selling cost to attract consumers. In perfect competition, there is a uniform price of a product. On the other hand, in monopolistic competition, the price of the differentiated products of every seller is different.

Thus, perfect competition does not mean monopolistic competition. They are two different forms of market.

(2) A seller is a price maker in monopoly.

Ans. Yes, I agree with this statement.

Reasons :

(1) In a monopoly market, there is a single seller

or a single producer. Under monopoly, monopolist has no rivals and he faces no competition.

(2) Under monopoly, entry of other firm is strictly restricted. Under monopoly, many entry barriers such as natural, economic, technological or legal do not allow competitors to enter the market.

(3) In monopoly, the monopolist's individual supply itself becomes the market supply and the firm itself becomes the industry. Therefore in monopoly, monopolist can set any price for his product. Similarly, he can also follow the technique of price discrimination for maximising the profit.

Thus, a seller is a price maker in monopoly.

*** 10 Observe the given table / diagram and answer the questions : (4 Marks each)**

Price of Banana (per dozen) in ₹	Demand (in dozen)	Supply (in dozen)	Relation between DD and SS
10	500	100	DD > SS
20	400	.....	DD > SS
30	.....	300	DD = SS
40	200	.....	DD < SS
50	.....	500	DD < SS

Questions :

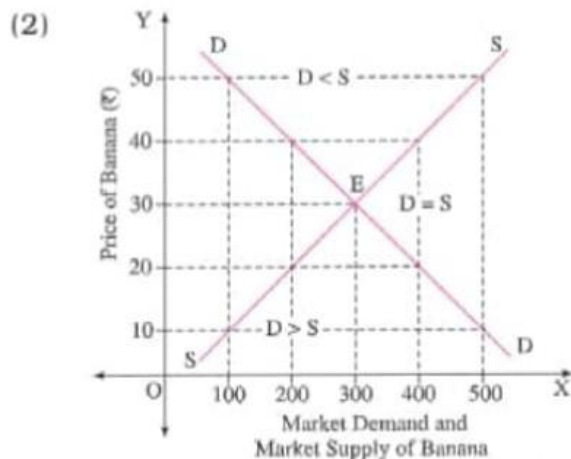
(1) Fill in the blanks in the above schedule.

(2) Derive the equilibrium price from the above schedule with the help of the suitable diagram.

Ans.

(1)

Price of Banana (per dozen) in ₹	Demand (in dozen)	Supply (in dozen)	Relation between DD and SS
10	500	100	DD > SS
20	400	200	DD > SS
30	300	300	DD = SS
40	200	400	DD < SS
50	100	500	DD < SS



**11 Answer the following questions in detail :
(8 Marks each)**

*** (1) Explain the meaning of Perfect Competition with its features.**

Ans. According to **Mrs. Joan Robinson**, "Perfect competition prevails when the demand for the output of each producer is perfectly elastic." The features of perfect competition are as follows :

(1) Large number of buyers and sellers :

(a) Large number of buyers : In perfect competition, there is a large number of potential buyers buying commodity in market. Their number is so large that a single buyer cannot influence the market price. Thus, in perfect competition, a buyer is a price taker.

(b) Large number of sellers : In perfect competition, there is a large number of potential sellers selling their commodity in the market. Their number is so large that the single seller cannot influence the market price. The price of the product is determined by the interaction of market demand and market supply of a commodity. Thus, in perfect competition, a seller is a price taker.

(2) Homogenous product : In perfect competition, every firm produces and sells identical products, i.e. units of a commodity produced by each firm are uniform in respect of their size, shape, colour, quality, etc. Therefore, the commodities sold in perfect market are perfect substitutes to one another.

(3) Free entry and exit : In perfect competition, any firm can freely enter or can exit the market without any restrictions. If there is a hope of profit,

a new firm can easily enter the market. Similarly, if there is possibility of losses, the existing firm can freely exit the market.

(4) Single price : In perfect competition, all units of a commodity have uniform price and it is determined by the equilibrium of the market demand and market supply.

(5) Perfect knowledge of market : In perfect competition, the buyers as well as sellers have perfect knowledge of market conditions such as price of product, quality of product, source of supply of product, etc.

(6) Perfect mobility of factors of production : In perfect competition, land has occupational mobility and other factors of production viz. labour, capital and entrepreneur have occupational mobility as well as geographical mobility.

(7) Absence of transport cost : It is assumed that there is no transport cost in perfect competition. Therefore, uniform price prevails in perfect competition.

(8) No government intervention : Laissez-faire policy prevails under perfect competition. It means that there is no government intervention in economic activities.

(2) What is Perfect Competition? Explain price determination under perfect competition.

Ans. (A) Meaning : A perfectly competitive market is one which has a large number of buyers and sellers of a homogenous product. According to Mrs. Joan Robinson, "Perfect competition prevails when the demand for the output of each producer is perfectly elastic."

(B) Price Determination :

(1) The price of the product in perfect competition is determined by the interaction of market demand and market supply forces. This price is called an equilibrium price.

(2) According to Alfred Marshall, market demand and market supply are like two blades of a pair of scissors. Just as cutting cloth is not possible with the use of one blade, equilibrium price of a commodity cannot be determined either by the forces of market demand or by market supply alone.

(3) The equilibrium price determination under perfect competition is explained in the following schedule :

Price Per Kg of Apples (in ₹)	Quantity Demanded (in Kg)	Quantity Supplied (in Kg)	Relation Between DD and SS
100	5000	1000	DD > SS
200	4000	2000	DD > SS
300	3000	3000	DD = SS
400	2000	4000	DD < SS
500	1000	5000	DD < SS

(4) Explanation of schedule :

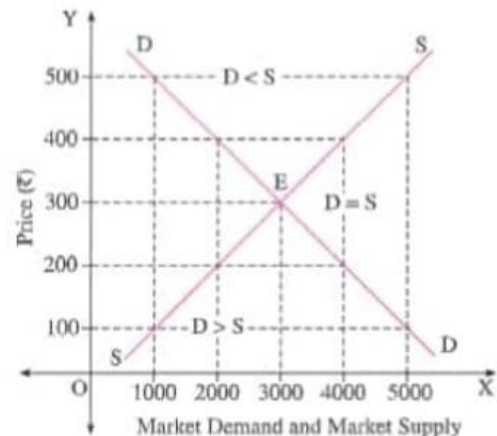
(a) From the schedule, it can be seen that when the price of the commodity is low, the quantity demanded is more and quantity supplied is less. (For example, at price of apples ₹ 100, quantity demanded is 5000 > quantity supplied is 1000. Similarly, at price of apples ₹ 200, quantity demanded is 4000 > quantity supplied is 2000.) In this condition of excess of market demand, the price of the commodity starts rising. Due to a rise in the price, the market demand starts contracting and market supply starts expanding. In this way, the process of equilibrium in market demand and market supply gets initiated.

(b) From the schedule, it can be seen that when the price of the commodity is high, the quantity demanded is less and quantity supplied is more. (For example, at price of apples ₹ 400, quantity demanded is 2000 < quantity supplied is 4000. Similarly, at price of apples ₹ 500, quantity demanded is 1000 < quantity supplied is 5000.) In this condition of excess of market supply, the price of the commodity starts falling. Due to a fall in the price, the market demand starts expanding and market supply starts falling. In this way, the process of equilibrium in market demand and market supply gets initiated.

(c) From the schedule, it can be seen that at a particular price, the market demand and market supply are equal to each other. (For example, at price of apples ₹ 300, quantity demanded is 3000 = quantity supplied is 3000.) This is called

an equilibrium price. An equilibrium price is the price at which quantity demanded is equal to the quantity supplied. In this way an equilibrium price is determined in perfect competition. This equilibrium price is accepted by the large number of buyers as well as large number of sellers.

(5) The equilibrium price determination under perfect competition is explained in the following diagram :



(6) Explanation of diagram :

(a) In the diagram, Y-axis represents the price of apples and the X-axis represents the market demand and market supply of apples. In the diagram, DD is a downward sloping demand curve indicating the inverse relationship between the price and quantity demanded. SS is an upward sloping supply curve indicating the direct relationship between the price and the quantity supplied.

(b) From the diagram, it can be seen that both the curves intersect each other at point E which is the equilibrium price of apples. In this example, the equilibrium price is ₹ 300.

(3) What is Monopoly? Explain in detail the features of monopoly.

Ans. (A) Meaning : 'Mono' means single and 'poly' means seller. Thus monopoly means single seller who has complete control over the supply of the commodity. According to Prof. E.H. Chamberlin, "A monopoly refers to a single firm which has control over the supply of a product which has no close substitute."

(B) Features : The following are the important features of monopoly :

(1) Single seller : In a monopoly market, there is a single seller (monopolist). The monopolist has no rivals and therefore he faces no competition.

(2) No close substitute : There are no close substitutes for the commodity sold in the monopoly market. Therefore buyers in a monopoly market have no choice. They have to buy a product from a monopolist or go without it. The cross elasticity of demand for a commodity sold by monopolist is zero.

(3) Barriers to entry : Under monopoly, the entry of rival firms is restricted due to natural, legal or technical barriers. Thus, rival firms are not allowed to enter in a monopoly market.

(4) Complete control over the market supply : The monopolist has the complete hold over the market supply as he is a sole producer of the commodity.

(5) Price maker : The firm /monopolist in a monopoly market is a price maker and not a price taker. Monopolist can set any price of a commodity as he has complete control over the market supply of the product.

(6) Price discrimination : Being a single seller, monopolist can charge consumer wise, place wise, time wise and use wise different prices for the same product. Price discrimination is an important feature of monopoly market. For example, Indian Railways provides railway tickets at concessional rates to the students and senior citizens.

(7) No discrimination between firm and industry : As monopolist is the only seller in the monopoly market, a monopolist's firm itself is an industry in a monopoly market.

(4) Explain the types of monopoly.

Ans. The following are the types of monopoly :

(1) Private monopoly : Private monopoly refers to sole ownership of the supply of goods or services by the private firm or individual. The main objective of private monopoly is earning the maximum profit. For example, Tata Group.

(2) Public monopoly : Public monopoly refers to sole ownership of the supply of goods or services by the government. The main objective of public

monopoly is not to earn the profit but to provide the maximum welfare to the society. For example, Indian Railways.

(3) Legal monopoly : The monopoly that emerges on account of legal provisions like patents, trade mark, copyrights, etc. is called legal monopoly. In a legal monopoly, the law forbids the potential competitors to imitate the design, form or shape of a product which is registered with a particular trade mark. If any firm violates the rights of the trade mark, legal action is taken against them. For example, Amul's products.

(4) Natural monopoly : The monopoly created on the basis of natural conditions like climate, rainfall, specific location, etc. is known as natural monopoly. For example, monopoly created by the state of Punjab in the production of wheat due to favourable climatic conditions and fertile soil.

(5) Simple monopoly : It is a type of monopoly, in which a monopolist charge consumer wise, place wise, time wise and use wise uniform price to the same product.

(6) Discriminating monopoly : It is a type of monopoly, in which a monopolist charge consumer wise, place wise, time wise and use wise different prices to the same product. For example, In India, the electricity charges are comparatively less for its domestic use and comparatively high for its commercial use.

(7) Voluntary monopoly : It is a type of monopoly where some monopolists voluntarily come together and form a group of monopolists to avoid cut-throat competition. This facilitates them to maximise the profit. For example, Organisation of Petroleum Exporting Countries (OPEC).

(5) What is meant by Oligopoly? Explain the features of oligopoly.

Ans. (A) Meaning : The term oligopoly is derived from the Greek words 'Oligo' which means few and 'poly' which means sellers. Thus, oligopoly is a market where there are a few firms (sellers) in the market producing and selling either a homogeneous product or a differentiated product. For example, few firms providing mobile services.

(B) Features : The features of oligopoly are as follows :

(1) Few firms or sellers : Under oligopoly market, there are few firms or sellers. From these few firms, some firms dominate the market and enjoy a considerable control over the price of a product.

(2) Interdependence : Under oligopoly market, every seller has to be cautious with respect to any action taken by the competing firms. Since there are few sellers in the market, if any firm makes the change in the price, all other firms in the industry also try to follow the same to remain in the competition.

(3) Advertising : Advertising is a powerful instrument in the hands of oligopolist. A firm under oligopoly uses aggressive and attractive advertising campaign with the intention of capturing a large part of the market. The cost incurred on advertising is called selling cost.

(4) Entry barriers : Under oligopoly market, any firm can easily exit from the industry whenever it wants or when there is possibility of losses. On the other hand, a new firm has to face certain natural, technical entry barriers as well as legal entry barriers like government license, patents, etc.

(5) Lack of uniformity : Under oligopoly, there is a lack of uniformity among the firms in terms of their size. Under oligopoly, some firms may be small with respect to its business operations while others may be of bigger size with respect to their business operations.

(6) Uncertainty : Uncertainty is an important feature of oligopoly market. There is a considerable element of uncertainty due to change in demand of products as an effect of advertisements as well as different behaviour patterns shown by various firms. For example, in oligopoly market, rivals may join hands and co-operate or may try to fight each other.

(6) Explain the features of monopolistic competition.

Ans. The features of monopolistic competition are as follows :

(1) Fairly large number of sellers : Although the number of sellers in a monopolistic competition is large, it is still smaller than that in a perfectly competitive market. Since number of sellers is large, each seller has a limited control over the market supply. However, each seller has monopoly over his brand. Thus, in monopolistic competition each producer enjoys an element of monopoly on one hand and on the other they have to face competition from sellers selling close substitutes.

(2) Fairly large number of buyers : In monopolistic market, there are fairly large number of buyers. Consequently, no single buyer can influence the price of the product by changing his individual demand.

(3) Product differentiation : Product differentiation is the main feature of monopolistic competition. In monopolistic competition, there are many firms producing differentiated products. In this market, the product of each firm is in some way differentiated from the product of every other firm in the market. Product differentiation may take the form of brand names, trademarks, peculiarity of package or container, shape, quality, cover, design, colour, etc. This means that the product of each firm may find close substitutes and the cross elasticity of demand for each firm's product is very high. For example, mobile handsets, soaps, toothpastes, two wheelers, etc.

(4) Free entry and exit : Under monopolistic competition there is freedom of entry and exit. The new firms are free to enter the market if there is opportunity of earning profit. Similarly, existing firms can exit the market, if they find it difficult to survive due to possibility of losses.

(5) Selling Cost : Selling cost is a peculiar feature of monopolistic competition. Selling cost refers to the cost incurred by the firm to create

more demand for its product and thus increase the volume of sales. Selling cost includes expenditure on advertisements, radio and television broadcasts, hoardings, exhibitions, window display, free gifts, free samples, etc.

(6) Close substitutes : In monopolistic competition, goods have close substitutes to each other. For example, different brands of cold drinks, biscuits, tea, etc.

(7) Concept of group : Under monopolistic competition, Chamberlin introduced the concept of 'Group' in place of industry. Industry means the number of firms producing identical products. On the other hand, a 'Group' means a number of firms producing differentiated products which are closely related to each other. For example, group of firms producing medicines, automobiles, etc.

*** (7) Explain the meaning of monopolistic competition with its features.**

Ans. (A) Meaning : Monopolistic competition is very realistic in nature. In this market, there are some features of perfect competition and some features of monopoly acting together. Prof. E. H. Chamberlin coined the concept of monopolistic competition in his book "Theory of Monopolistic Competition" which was published in 1933. According to Chamberlin, "*Monopolistic competition refers to competition among a large number of sellers producing close but not perfect substitutes.*"

(B) Features : For the features refer to Q. 11 (6).

* * *



INDEX NUMBERS

IMPORTANT CONCEPTS

- **Index Number** : An index number is a device to measure changes in an economic variable over a period of time.
- **Base Year** : The base year is the year in the past with reference to which the changes in an economic variable in the present times are calculated.
- **Current Year** : The current year is the year in the present times for which the changes in an economic variable are calculated.

Notations :

- (1) P_0 : Price of the commodity in the base year.
- (2) P_1 : Price of the commodity in the current year.
- (3) q_0 : Quantity of the commodity consumed or purchased in the base year.
- (4) q_1 : Quantity of the commodity consumed or purchased in the current year.
- (5) P_0q_0 : Product of price and the quantity of the commodity consumed or purchased in the base year.
- (6) P_1q_1 : Product of price and the quantity of the commodity consumed or purchased in the current year.

CHAPTER AT A GLANCE

1. Introduction :

(1) An index number is a statistical tool to measure changes in an economic variable over a period of time.

(2) Index numbers were originally developed to measure the changes in the price level. In the present context, index numbers are also used to measure changes in stock market prices, cost of living, industrial and agricultural production, exports and imports, etc.

2. Definitions of Index Numbers :

(1) According to **Spiegel** : "An index number is a statistical measure designed to show changes in a variable or a group of related variables with reference to time, geographical location and other characteristics such as income, profession, etc."

(2) According to **Croxton and Cowden** : "Index Numbers are devices for measuring differences in the magnitude of a group of related variables."

3. Features of Index Numbers :

The features of index numbers are as follows :

- (1) Index numbers are statistical devices.
- (2) Index numbers are specialized averages and are capable of being expressed in percentages.
- (3) Index numbers are helpful in measuring the net changes in one or more related variables over a period of time or between two different time periods or two different localities.
- (4) Index numbers are computed for measuring a net change in a single variable (known as univariate index numbers) or a group of variables (known as composite index) over a period of time.
- (5) Index numbers are prepared with reference to the base year. It is denoted by the suffix '₀'.
- (6) The base year's index of a selected variable is assumed as 100.
- (7) Index numbers are prepared for a current year. It is denoted by the suffix '₁'.
- (8) Index numbers are also referred to as 'barometers of economic activity'.

4. Types of Index Numbers :

The types of index numbers are explained in the following table :

Types of Index Number	Explanation
1. Price Index Number	An index number measuring the general changes in the prices of goods over a period of time.
2. Quantity Index Number	An index number measuring the changes in the level of output of production in the economy over a period of time.
3. Value Index Number	The index number measuring the changes in the value of a variable in terms of rupee over a period of time.
4. Special Purpose Index Number	An index number constructed with some specific purpose.

5. Significance of Index Numbers in Economics :

Index numbers are the indispensable tools of economic analysis. The significance of index numbers in economics can be explained as follows :

(1) Index numbers provide guidelines to policy makers in framing suitable economic policies.

(2) Index numbers are widely used to measure changes or trends in various economic variables over a period of time.

(3) Index numbers helps in making predictions on the basis of analysing the past and present trends in the economic activities.

(4) Index numbers are used to measure changes in the price level from time to time.

(5) Index numbers are useful to present financial data in real terms.

6. Construction of Index Numbers :

The following steps are involved in the construction of index numbers :

(1) Deciding the purpose for constructing the index number.

(2) Selecting the normal base year from the past.

(3) Selecting a sample of the number of items representing the tastes, habits and customs of the people, etc. to be included in the construction of a particular index number.

(4) Obtaining price quotations from an unbiased price reporting agency representing various representative places and persons.

(5) Choosing suitable average for statistical calculations.

(6) Assigning proper weights, i.e. quantity weights and/or value weights to achieve better results.

(7) Selecting an appropriate formula according to the purpose of index number and availability of data.

7. Methods of Constructing Index Numbers :

(1) Simple index numbers and weighted index numbers are the two methods of constructing index numbers.

(2) In simple index numbers, every commodity is given equal importance (weight).

The following are the types of index numbers using simple index numbers method :

Index Numbers using Simple Index Numbers Method	Formula of Constructing Index Numbers
1. Price Index Number	$P_{01} = \frac{\sum p_1}{\sum p_0} \times 100$
2. Quantity Index Number	$Q_{01} = \frac{\sum q_1}{\sum q_0} \times 100$
3. Value Index Number	$V_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$

(3) In weighted index numbers, every commodity is given suitable importance (weight) generally on the basis of the quantity. The following are the types of index numbers using weighted index numbers method :

Index Numbers using Weighted Index Numbers Method	Formula of Constructing Index Numbers
1. Laspeyres's Price Index Number	$P_{01} = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$
2. Paasche's Price Index Number	$P_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$

8. Limitations of Index Numbers :

The limitations of index numbers are as follows :

- (1) As index numbers are generally based on samples, they suffer from sampling errors.
- (2) Index numbers constructed on the basis of incomplete data have adverse effects on the results of the index numbers.
- (3) Index numbers can be misused if the base year is chosen as per the suitability of the wrong purpose.
- (4) There is no perfect formula for the construction of an index number. It is only an

average and so it has all the limitations of an average.

(5) The changes in the habits, tastes and expectations of the people in a country cannot be included in the estimation of index numbers.

(6) The price or quantity index numbers may ignore the changes in qualities of the products.

(7) The weights assigned to different commodities may be arbitrary.

(8) An index number has limited scope because if it is constructed for one purpose then it cannot be used for any other purpose.

EXERCISE

*1 Choose the correct option : (1 Mark each)

(1) Statements that are incorrect in relation to index numbers :

- (a) Index number is a geographical tool.
- (b) Index numbers measure changes in the air pressure.
- (c) Index numbers measure relative changes in an economic variable.
- (d) Index numbers are specialized averages

Options : (1) c and d (2) a and b
(3) b and c (4) a and d

(2) Statements that highlight the significance of index number :

- (a) Index numbers are useful for making future predictions.
- (b) Index numbers help in measurement of inflation.
- (c) Index numbers help to frame suitable policies.
- (d) Index numbers can be misused.

Options : (1) b, c and d (2) a, c and d
(3) a, b and d (4) a, b and c.

(3) Statements that apply weighted index numbers :

- (a) Every commodity is given equal importance
- (b) It assigns suitable 'weights' to various commodities
- (c) In most of the cases, quantities are used as weights.

(d) Laaspeyre's and Paasche's method is used in the calculation of weighted index numbers

Options : (1) b, c and d (2) a, c and d
(3) a, b and d (4) a, b, c and d

(4) Statements related to limitations of index numbers :

- (a) Index numbers are not completely reliable.
- (b) There may be a bias in the data collected.
- (c) Every formula has some kind of defeat.
- (d) Index numbers ignore changes in the qualities of products.

Options : (1) a, c and d (2) a, b, c and d
(3) a, b and d (4) b, c and d

(5) Choose the correct pair -

Group A	Group B
1. Price Index	a. $= \frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$
2. Value Index	b. $= \frac{\sum q_1}{\sum q_0} \times 100$
3. Quantity Index	c. $= \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$
4. Paasche's Index	d. $= \frac{\sum p_1}{\sum p_0} \times 100$

Options : (1) 1-d, 2-c, 3-a, 4-b
(2) 1-d, 2-a, 3-b, 4-c
(3) 1-b, 2-c, 3-d, 4-a
(4) 1-c, 2-d, 3-a, 4-b

Ans. (1) (1) c and d **(2)** (3) a, b and d **(3)** (1) b, c and d **(4)** (2) a, b, c and d **(5)** (2) 1-d, 2-a, 3-b, 4-c.

2 Find the odd word(s) : (1 Mark each)

- (1) Price index number, Quantity index number, Paasche's index number, Value index number.
 (2) Laaspeyre's index number, Value index number, Price index number, Quantity index number.

Ans. (1) Paasche's index number (2) Laaspeyre's index number.

3 Complete the correlation : (1 Mark each)

- * (1) Price Index : Inflation : : Agricultural production
 * (2) : Base year prices : P_1 : Current year prices
 * (3) Laaspeyre's Index : : Paasche's Index : Current year quantities
 * (4) : Single variable : Composite index : Group of variables
 (5) q_0 : Quantities of base year : q_1 :

Ans. (1) Agricultural productivity index (2) P_0
 (3) Base year quantities (4) Univariate index
 (5) Quantities of current year.

4 Give economic terms : (1 Mark each)

- (1) A statistical tool to measure changes in an economic variable over a period of time.
 (2) An index number measuring the general changes in the prices of goods over a period of time.
 (3) An index number measuring the general changes in the labour productivity over a period of time.
 (4) An index number measuring the general changes in a single variable over a period of time.
 (5) An index number measuring the general changes in a group of variables over a period of time.

Ans. (1) Index numbers (2) Price Index Number
 (3) Labour Productivity Index Number
 (4) Univariate Index Number (5) Composite Index Number.

5 Assertion and Reasoning Type Questions : (1 Mark each)

(1) **Assertion (A)** : The normal year is chosen as the base year while calculating index numbers.

Reasoning (R) : The situations does not remain normal due to drought. Therefore, the year in which the drought occurred is not selected as the base year while calculating index numbers.

(1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

(2) **Assertion (A)** : The general changes in the agricultural production over a period of time are studied with the help of the Agricultural Productivity Index Numbers.

Reasoning (R) : Agricultural Productivity Index Numbers measure the general changes in the prices of shares over a period of time.

(1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (1) (A) is true, but (R) is false.

6 Identify and explain the concepts from the given illustrations : (1 Mark each)

Note : The activities given in 'Find Out' on Page 58 of the textbook are included here with answers by rewording them.

(1) Mihir calculated the index numbers by compiling data on total production of rice, wheat, sorghum, tea, coffee, ginger, chilli, turmeric, onions, potatoes, sugar cane, bananas, etc. for the year 2015 and 2019.

Ans. (A) Identified concept : Index of Agricultural Production.

(B) Explanation of concept : Index of Agricultural Production measures the general changes in the agricultural production over a period of time. A list of various agricultural crops like rice, wheat, sorghum, tea, coffee, ginger, chilli, turmeric, onions, potatoes, sugar cane, bananas, etc. is prepared and the changes in the production of these crops over a period of time is measured by the Index of Agricultural Production.

(2) Shailesh calculated index numbers by compiling data on total production of steel, fertilizers, cement, mineral oil, medical

equipment, natural gas, etc. for the year 2014 and 2018.

Ans. (A) Identified concept : Index of Industrial Production.

(B) Explanation of concept : Index of Industrial Production measures the general changes in the industrial production over a period of time. A list of various industrial goods like steel, fertilizers, cement, mineral oil, medical equipment, natural gas, etc. is prepared and the changes in the production of these products over a period of time is measured by the Index of Industrial Production.

*** 7 Distinguish between the following :**

(2 Marks each)

(1) Simple Index Numbers and Weighted Index Numbers :

Ans.

Simple Index Numbers

Weighted Index Numbers

(1) Meaning

Index numbers measured by giving equal importance (weight) to every commodity are known as simple index numbers.

Index numbers measured by giving suitable importance (weight) to every commodity on the basis of their quantity are known as weighted index number.

(2) Nature

The measurement of simple index numbers is comparatively simple.

The measurement of weighted index numbers is comparatively complex.

(2) Price Index Numbers and Quantity Index Numbers :

Ans.

Price Index Numbers

Quantity Index Numbers

(1) Meaning

Price index number is a type of index number derived by multiplying the ratio of sum of the prices of various commodities of the current year and sum of the prices of various commodities of the base year by 100.

Quantity index number is a type of index number derived by multiplying the ratio of sum of the quantities of the various goods of the current year and sum of the quantities of various goods of the base year by 100.

(2) Formula

$$\text{Price Index Number } P_{01} = \frac{\sum p_1}{\sum p_0} \times 100$$

$$\text{Quantity Index Number } Q_{01} = \frac{\sum q_1}{\sum q_0} \times 100$$

(3) Laaspeyre's Index Number and Paasche's Index Number :

Ans.

Laaspeyre's Index Number

Paasche's Index Number

(1) Distinctive Feature

A distinctive feature of Laaspeyre's index number is that it uses a group of commodities purchased in the base year period as the basis of comparison.

A distinctive feature of Paasche's index number is that it uses a group of commodities purchased in the current year period as the basis of comparison.

(2) Formula

The formula for measuring Laaspeyre's index number is as follows : $P_{01} = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$

The formula for measuring Paasche's index number is as follows : $P_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$

8 Answer the following : (4 Marks each)*** (1) Explain the features of index numbers.**

Ans. The features of index numbers are as follows :

(1) **Statistical device** : Index numbers are statistical devices.

(2) **Specialized averages** : Index numbers are specialized averages. Index numbers are capable of being expressed in percentages.

(3) **Helpful to measure changes in the variables** : Index numbers are helpful in measuring the net changes in one or more related variables over a period of time or between two different time periods or two different localities.

(4) **Computed for a single variable or a group of variables** : Index numbers are computed for measuring a net change in a single variable or a group of variables over a period of time. Index number which is computed from a single variable is called a 'univariate index'. An index number which is constructed from a group of variables is called a 'composite index'.

(5) **Prepared for a current year** : Index numbers are prepared for a current year. Index numbers measure a net change in a particular variable from the base year to the current year.

(6) **Based on the base year** : Index numbers are prepared with reference to the base year. Index numbers measure a net change in a particular variable by taking into account the values of a particular variable in the selected base year.

(7) **Assumption of base year's index as 100** : While calculating the net change in the values of a particular variable, the base year's index of a selected variable is assumed as 100 and accordingly the value of the selected variable for the current year is calculated.

(8) **Barometers of economic activity** : Index numbers are also referred to as 'barometers of

economic activity', since they are used to measure the trends and changes in the economy.

(Note : Any four points are expected in answer.)

*** (2) Explain the significance of index numbers in economics.**

Ans. The significance of index numbers in economics can be explained as follows :

(1) **Helpful in framing suitable policies** : Index numbers provide guidelines to policy makers in framing suitable economic policies. Index numbers are helpful in framing the economic policies such as agricultural policy and industrial policy. Index numbers also help in the fixation of wages and dearness allowances in accordance with the cost of living, etc.

(2) **Helpful in studying trends and tendencies** : Index numbers are widely used to measure changes in various economic variables such as production, prices, exports, imports, etc. over a period of time. For example, by examining the index of industrial production for the last five years, important conclusions about the trend of industrial production, i.e. whether the industrial production shows an upward tendency or a downward tendency can be drawn.

(3) **Helpful in forecasting future economic activity** : Index numbers helps in making predictions on the basis of analysing the past and present trends in the economic activities. For example, by examining the data pertaining to exports of alphonso mangoes from the year 2009 to 2014 and from the year 2014 to 2019, if it is noticed that the export of alphonso mangoes has been increasing, it can be predicted that an increase in export will continue in future.

(4) **Helpful in measurement of inflation** : Index numbers are also used to measure changes in the price level from time to time. The measurement of inflation enables the government to undertake appropriate anti-inflationary measures. For example, there is a legal provision to pay the D.A.

(dearness allowance) to the employees in organised sector on the basis of changes in Dearness Index. Thus, with the help of the Dearness Index, the government can increase the D.A. from time to time.

(5) Useful to present financial data in real terms : Rise in money supply over a period of time leads to inflation in an economy. Inflation has its effects on various economic variables such as total production, national income, price level, wage level, etc. Index numbers can exclude the effects of inflation by deflating the values of these various economic variables on the basis of their constant prices. Thus, index numbers can measure the changes in the values of various economic variables in real terms.

(Note : Any four points are expected in answer.)

(3) Explain the types of index numbers.

Ans. The types of index numbers are as follows :

(1) Price index number : Price index number measures the general changes in the prices of goods over a period of time. It compares the level of prices between the base year and the current year.

(2) Quantity index number : Quantity index number is also called volume index number. It measures changes in the level of output or physical volume of production in the economy over a period of time. For example, changes in agricultural production and industrial production, etc. over a period of time.

(3) Value index number : The value of a commodity is the product of its price and quantity ($p \times q$). The value index number measures the changes in the value of a variable in terms of rupee over a period of time. It is a more informative index as it combines both, changes in the price as well as quantity.

(4) Special purpose index number : Special purpose index number is constructed with some specific purpose. For example, import-export index numbers, labour productivity index numbers, share price index number, etc.

(4) What is meant by Price Index Number? Explain the steps in constructing price index number.

Ans. (A) Meaning : (1) Price index number is a type of index number derived by multiplying the ratio of sum of the prices of various commodities of the current year and sum of the prices of various commodities of the base year by 100.

(2) The formula for measuring price index number is as follows :

$$\text{Price Index Number } P_{01} = \frac{\sum p_1}{\sum p_0} \times 100$$

(B) Steps in constructing price index number :

(1) $\sum p_1$ = Adding the prices of various commodities of the current year.

(2) $\sum p_0$ = Adding the prices of various commodities of the base year.

$$(3) = \frac{\sum p_1}{\sum p_0} \times 100 = \text{Multiplying the ratio of sum of}$$

the prices of various commodities of the current year and sum of the prices of various commodities of the base year by 100.

(5) What is meant by Quantity Index Number? Explain the steps in constructing quantity index number.

Ans. (A) Meaning : (1) Quantity index number is a type of index number derived by multiplying the ratio of sum of the quantities of the various goods of the current year and sum of the quantities of various goods of the base year by 100.

(2) The formula for measuring quantity index number is as follows :

$$\text{Quantity Index Number } Q_{01} = \frac{\sum q_1}{\sum q_0} \times 100$$

(B) Steps in constructing quantity index number :

(1) $\sum q_1$ = Adding the quantities of various commodities of the current year.

(2) $\sum q_0$ = Adding the quantities of various commodities of the base year.

$$(3) = \frac{\sum q_1}{\sum q_0} \times 100 = \text{Multiplying the ratio of sum of}$$

the quantities of various commodities of the current year and sum of the quantities of various goods of the base year by 100.

(6) What is meant by Value Index Number?**Explain the steps in constructing value index number.**

Ans. (A) Meaning : (1) Quantity index number is a type of index number derived by multiplying the ratio of sum of the products of the prices and quantities of the various goods of the current year and sum of the products of the prices and quantities of various goods of the base year by 100.

(2) The formula for measuring quantity index number is as follows :

$$\text{Quantity Index Number } V_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$$

(B) Steps in constructing value index number :

(1) $\sum p_1 q_1$ = Adding the products of the prices and quantities of various commodities of the current year.

(2) $\sum p_0 q_0$ = Adding the products of prices and quantities of various commodities of the base year.

(3) $= \frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$ = Multiplying the ratio of sum

of the products of prices and quantities of various commodities of the current year and sum of the products of prices and quantities of various goods of the base year by 100.

(7) What is a distinctive feature of Laaspeyre's index number? Explain the steps in constructing Laaspeyre's index number.

Ans. (A) Distinctive feature of Laaspeyre's index number : A distinctive feature of Laaspeyre's index number is that it uses a group of commodities purchased in the base year period as the basis of comparison. The formula for measuring Laaspeyre's index number is as follows :

$$P_{01} = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$$

(B) Steps in constructing Laaspeyre's index number :

(1) $\sum p_1 q_0$ = Adding the products of the prices of various commodities of the current year and the quantities of various commodities of the base year.

(2) $\sum p_0 q_0$ = Adding the products of prices and quantities of various commodities of the base year.

$$(3) = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100 = \text{Multiplying the ratio of sum}$$

of the products of the prices of various commodities of the current year and the quantities of various commodities of the base year and sum of the products of prices and quantities of various goods of the base year by 100.

(8) What is a distinctive feature of Paasche's index number? Explain the steps in constructing Paasche's index number.

Ans. (A) Distinctive feature of Paasche's index number : A distinctive feature of Paasche's index number is that it uses a group of commodities purchased in the current year period as the basis of comparison. The formula for measuring Paasche's index number is as follows :

$$P_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$$

(B) Steps in constructing Paasche's index number :

(1) $\sum p_1 q_1$ = Adding the products of prices and quantities of various commodities of the current year.

(2) $\sum p_0 q_1$ = Adding the products of the prices of various commodities of the base year and the quantities of various commodities of the current year.

$$(3) = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100 = \text{Multiplying the ratio of sum}$$

of the products of prices and quantities of various commodities of the current year and sum of the products of the prices of various commodities of the base year and the quantities of various commodities of the current year by 100.

9 Solve the following : (4 Marks each)*** (1) Calculate price index number from the given data :**

Commodity	A	B	C	D
Price in 2005 (₹)	6	16	24	4
Price in 2010 (₹)	8	18	28	6

Ans.

Commodity	Price in 2005 (₹) (Base Year) P_0	Price in 2010 (₹) (Current Year) P_1
A	6	8
B	16	18
C	24	28
D	4	6
Total	₹ $P_0 = 50$	₹ $P_1 = 60$

$$\text{Price Index Number } P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$$

$$\therefore P_{01} = \frac{60}{50} \times 100$$

$$\therefore P_{01} = 120$$

$$\therefore \text{Price Index Number} = 120$$

* (2) Calculate quantity index number from the given data :

Commodity	P	Q	R	S	T
Base Year Quantities	170	150	100	195	205
Current Year Quantities	90	70	75	150	95

Ans.

Commodity	Base Year Quantities (Base Year) q_0	Current Year Quantities (Current Year) q_1
P	170	90
Q	150	70
R	100	75
S	195	150
T	205	95
Total	$\sum q_0 = 820$	$\sum q_1 = 480$

$$\text{Price Index Number } Q_{01} = \frac{\sum q_1}{\sum q_0} \times 100$$

$$\therefore Q_{01} = \frac{480}{820} \times 100$$

$$\therefore Q_{01} = \frac{24}{41} \times 100$$

Ans. (A) Laaspeyre's Index Number :

Commodity	Base Year		Current Year			
	P_0	q_0	P_1	q_1	$P_1 q_0$	$P_0 q_1$
A	8	30	12	25	360	240
B	10	42	20	16	840	420
Total					$\sum P_1 q_0 = 1200$	$\sum P_0 q_1 = 660$

$$\therefore Q_{01} = \frac{2400}{41}$$

$$\therefore Q_{01} = 58.536$$

$$\therefore \text{Quantity Index Number} = 58.54$$

* (3) Calculate value index number from the given data :

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	40	15	70	20
B	10	12	60	22
C	50	10	90	18
D	20	14	100	16
E	30	13	40	15

Ans.

Commodity	Base Year			Current Year		
	P_0	q_0	$P_0 q_0$	P_1	q_1	$P_1 q_1$
A	40	15	600	70	20	1400
B	10	12	120	60	22	1320
C	50	10	500	90	18	1620
D	20	14	280	100	16	1600
E	30	13	390	40	15	600
Total			$\sum P_0 q_0 = 1890$			$\sum P_1 q_1 = 6540$

$$\text{Value Index Number } V_{01} = \frac{\sum P_1 q_1}{\sum P_0 q_0} \times 100$$

$$\therefore V_{01} = \frac{6540}{1890} \times 100$$

$$\therefore V_{01} = \frac{65400}{189}$$

$$\therefore V_{01} = 346.031$$

$$\therefore \text{Value Index Number} = 346.031$$

* (4) Calculate Laaspeyre's Index Number and Paasche's Index Number from the given data :

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
X	8	30	12	25
Y	10	42	20	16

$$\text{Laaspeyre's index number } P_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_0} \times 100$$

$$\therefore P_{01} = \frac{1200}{660} \times 100 \quad \therefore P_{01} = \frac{120}{66} \times 100$$

$$\therefore P_{01} = \frac{60}{33} \times 100$$

$$\therefore P_{01} = \frac{6000}{33}$$

$$\therefore P_{01} = 181.818$$

$$\therefore \text{Laaspeyre's index number} = \mathbf{181.82}$$

(B) Paasche's Index Number :

Commodity	Base Year		Current Year			
	P_0	q_0	P_1	q_1	$P_1 q_1$	$P_0 q_1$
A	8	30	12	25	300	200
B	10	42	20	16	320	160
Total					$\sum p_1 q_1 = 620$	$\sum p_0 q_1 = 360$

$$\text{Paasche's index number } P_{01} = \frac{\sum p_1 q_1}{\sum p_0 q_1} \times 100$$

$$\therefore P_{01} = \frac{620}{360} \times 100$$

$$\therefore P_{01} = \frac{31}{18} \times 100$$

$$\therefore P_{01} = \frac{3100}{18}$$

$$\therefore P_{01} = 172.222$$

$$\therefore \text{Paasche's index number} = \mathbf{172.22}$$

(5) Calculate Laaspeyre's Index Number from the given data :

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
X	10	120	15	130
Y	12	150	20	200

Ans.

Commodity	Base Year		Current Year			
	P_0	q_0	P_1	q_1	$P_1 q_0$	$P_0 q_0$
A	10	120	15	130	1800	1200
B	12	150	20	200	3000	1800
Total					$\sum p_1 q_0 = 4800$	$\sum p_0 q_0 = 3000$

$$\text{Laaspeyre's index number } P_{01} = \frac{\sum p_1 q_0}{\sum p_0 q_0} \times 100$$

$$\therefore P_{01} = \frac{4800}{3000} \times 100$$

$$\therefore P_{01} = \frac{8}{5} \times 100$$

$$\therefore P_{01} = 160$$

$$\therefore \text{Laaspeyre's index number} = \mathbf{160}$$

(6) Calculate Paasche's Index Number from the given data :

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
X	35	10	40	15
Y	50	22	60	25

Ans.

Commodity	Base Year		Current Year			
	P ₀	q ₀	P ₁	q ₁	P ₁ q ₁	P ₀ q ₁
A	35	10	40	15	600	525
B	50	22	60	25	1500	1250
Total					$\Sigma P_1 q_1 = 2100$	$\Sigma P_0 q_1 = 1775$

Paasche's index number $P_{01} = \frac{\Sigma P_1 q_1}{\Sigma P_0 q_1} \times 100$

$$\therefore P_{01} = \frac{2100}{1775} \times 100$$

$$\therefore P_{01} = \frac{84}{71} \times 100$$

$$\therefore P_{01} = \frac{8400}{71}$$

$$\therefore P_{01} = 118.309$$

$$\therefore \text{Paasche's index number} = 118.31$$

10 State with reasons whether you agree or disagree with the following sentences : (4 Marks each)

***(1) Index numbers measure changes in the price level only.**

Ans. No, I disagree with this statement.

Reasons :

(1) Index numbers measure the changes in the price level as well as changes in stock market prices, cost of living, industrial and agricultural production, exports and imports, etc.

(2) For example, Labour Productivity Index Number measures the general changes in the labour productivity over a period of time.

(3) Consumer Price Index Number, Wholesale Price Index Number, Index of Service Production, Human Development Index Number, etc. are the special purpose index numbers measuring the changes in various economic variables over a period of time.

Thus, index numbers do not measure changes in the price level only, but also measure changes in many other economic variables.

***(2) Index numbers are free from limitations.**

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 12 (2) in Answer the following questions in detail.

***(3) Index numbers can be constructed without the base year.**

Ans. No, I disagree with this statement.

Reasons :

(1) Index numbers measures the changes in an economic variable in present times with reference to the year in the past. This year in the past is known as base year.

(2) For the calculation of index numbers, the normal year from the past is selected as the base year. The base year should be normal, i.e. it should be free from natural calamities, warlike conditions, emergencies, etc. Similarly, it should not be too distant in the past.

(3) While preparing index numbers with reference to the base year, it is denoted by the suffix '₀'. The base year's index of a selected variable is assumed as 100. The index numbers are measured for the current year on the basis of the past year.

Thus, index numbers cannot be constructed without the base year.

(4) Index numbers are significant in economics.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 8 (2) in Answer the following.

11 Observe the given table and answer the questions : (4 Marks each)

Observe the table and answer the questions :

Commodity	A	B
Price in 2014 (₹)	6	10
Price in 2019 (₹)	8	12

(1) Calculate price index number from the given data.

(2) Write the percentage increase in price level during the five years from 2014 to 2019.

Ans. (1)

Commodity	Price in 2014 (₹) (Base Year) P_0	Price in 2019 (₹) (Current Year) P_1
A	6	8
B	10	12
Total	$\sum P_0 = 16$	$\sum P_1 = 20$

$$\text{Price Index Number } P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$$

$$\therefore P_{01} = \frac{20}{16} \times 100$$

$$\therefore P_{01} = \frac{5}{4} \times 100$$

$$\therefore P_{01} = 125$$

$$\therefore \text{Price Index Number} = 125$$

(2) The percentage increase in price level during the five years from 2014 to 2019 is by 25 %.

12 Answer the following questions in detail : (8 Marks each)

*** (1) Explain the steps involved in the construction of index numbers.**

Ans. The steps involved in the construction of index numbers are as follows :

(1) Deciding the purpose of index numbers : Deciding the purpose of index numbers

is the first important step in the construction of index numbers. The purpose for constructing the index number, its scope as well as which variable is intended to be measured should be clearly decided to achieve fruitful results. For example, if the purpose of constructing index numbers is to find out the changes in the wholesale prices of a particular commodity, then collecting the retail prices of a particular commodity will not be fruitful.

(2) Selecting the base year : Base year is also called the reference year. It is the year against which comparisons are made. The base year should be normal, i.e. it should be free from natural calamities, warlike conditions, emergencies, etc. It should not be too distant in the past.

(3) Selecting items : It is necessary to select a representative sample of the number of items to be included in the construction of index numbers. The representative sample of number of items should represent the tastes, habits and customs of the people. Similarly, only standardized or graded items should be included to give better results. For example, while measuring the trends in consumption pattern of poor people, the data related to quantities of essential goods consumed by poor people over a period of time is to be collected. The collection of data related to quantities of luxury goods consumed by rich people will not be fruitful.

(4) Selecting price quotations : Prices of the selected commodities may vary from place to place and shop to shop in the same market. Therefore, while calculating index numbers, it is desirable that price quotations should be obtained from an unbiased price reporting agency. Proper selection of representative places and persons is required to achieve accuracy in the construction of index numbers.

(5) Choosing suitable average : Construction of index numbers requires choice of a suitable average. Generally, Arithmetic mean is used in the construction of index numbers as compared to other averages, it is simple to compute.

(6) Assigning proper weights : Weight refers to the relative importance of the different items in the construction of an index number. Weights are of two types, viz. (1) Quantity weights (q) and (2) Value weights ($p \times q$). Since all items are not of equal importance, while constructing index numbers, specific weights are assigned to various commodities for achieving better results.

(7) Selecting an appropriate formula : Various formulae are devised for the construction of index numbers. According to the purpose of index number and availability of data, a suitable formula is chosen for constructing index numbers.

(2) Explain the limitations of index numbers.

Ans. The limitations of index numbers are as follows :

(1) Based on samples : Index numbers are generally based on samples. While constructing index numbers, we cannot include all the items in the construction of the index numbers. Hence index numbers suffer from sampling errors.

(2) Bias in the data : Index numbers are constructed on the basis of various types of data which may be incomplete. There may be bias in the data collected. This is bound to affect the results of the index numbers adversely.

(3) Misuse of Index Numbers : Index numbers can be misused. They compare a situation in the current year with a situation in the base year.

Hence a person may choose a base year which will be suitable for his purpose. For example, while studying the trends in employment level, if a year of drought or recession is selected as a base year and the level of employment in the current year is checked with reference to employment level in the base year, we may get the misleading results.

(4) Defects in formulae : There is no perfect formula for the construction of an index number. It is only an average and so it has all the limitations of an average.

(5) Changes in the economy : The habits, tastes and expectations of the people in a country always change over a period of time. However, these changes cannot be included in the estimation of index numbers.

(6) Qualitative changes : The price or quantity index numbers may ignore the changes in qualities of the products. A commodity in the current year may have a higher price as well as higher quality than its low priced ordinary version in the base year in the past. However, these changes cannot be included in the estimation of index numbers.

(7) Arbitrary weights : While constructing the index numbers, the weights assigned to different commodities may be arbitrary.

(8) Limited scope : An index number has limited scope. Index numbers constructed for one purpose cannot be used for any other purpose.

* * *



NATIONAL INCOME

IMPORTANT CONCEPTS

- **National Income** : National income is the flow of goods and services produced in an economy during a year.
- **Depreciation** : Depreciation refers to wear and tear of capital assets due to their use in the process of production.

Notations :

Y : National income

C : Consumption expenditure

I : Investment expenditure

G : Government expenditure

(X-M) : (Export – Import) Net export

(R-P) : (Receipts – Payments) Net receipts

GDP : Gross Domestic Product

NDP : Net Domestic Product

GNP : Gross National Product

NNP : Net National Product

CHAPTER AT A GLANCE

1. Introduction :

(1) The total income of the nation is called national income. National income is a composite measure of all economic activities such as production, distribution, exchange and consumption. It is also an objective indicator of economic welfare of the people in a country.

(2) According to **National Income Committee (NIC)** "A national estimate measures the volume of commodities and services turned out during a given period counted without duplication."

(3) According to **Prof. A.C. Pigou** : "National dividend is that part of objective income of the community including of course income derived from abroad which can be measured in money."

(4) According to **Prof. Irving Fisher** : "National dividend or income consists solely of services as received by ultimate consumers, whether from their material or from their human environments."

2. Features of National Income :

The features of national income are :

- (1) National income is a macroeconomic concept.
- (2) National income considers the value of only final goods and services.

(3) National income includes net value of goods and services produced and it does not include depreciation cost.

(4) National income includes net income from abroad.

(5) National income is generally calculated for every economic year.

(6) National income is a flow concept.

(7) National income is always expressed in monetary terms.

3. Circular Flow of National Income :

(1) The circular flow of national income refers to the process whereby an economy's money receipts and payments flow in a circular manner continuously through time.

(2) The circular flow of national income can be explained with the help of the two sector model, three sector model and four sector model.

4. Two Sector Model of Circular Flow of National Income :

(1) Household sector supplies their services to the firms and firms in return, supply goods and services to the household sector. This flow is known as real flow or product flow.

(2) As household sector supplies factors of production, it in turn receives factor payments. Similarly, as firms supply goods and services to the household sector, it in turn receives the price payments for goods and services from household sector. This money flow makes the flow of national income circular between household sector and firms.

5. Different Concepts of National Income :

(1) Gross Domestic Product (GDP) : Gross Domestic Product is the gross market value of all final goods and services produced within the domestic territory of a country, during a period of one year.

(2) Net Domestic Product (NDP) : Net Domestic Product is the net market value of all final goods and services produced within the territorial boundaries of a country, during a period of one year.

(3) Gross National Product (GNP) : Gross National Product means the gross value of final goods and services produced annually in a country, which is estimated according to the price prevailing in the market.

(4) Net National Product (NNP) : Net National Product is the net market value of all final goods and services produced by the residents of a country, during a period of one year.

6. Concept of Green GNP :

(1) Green GNP is obtained from deducting net fall in stock of natural capital and pollution load from the GNP.

(2) "Green GNP is an indicator of sustainable use of natural environment and equitable distribution of benefits of development." It thus takes into account the economic welfare.

7. Methods of Measuring National Income :

(1) Output Method : This method of measuring national income is also known as product method or inventory method. The output method is widely used in the underdeveloped countries. In this method, the national income is calculated either by final goods approach or by value added approach.

(a) The Final Goods Approach/The Final Product Approach : According to this approach, value of all final goods and services produced in primary, secondary and tertiary sectors are included and the value of all intermediate transactions are ignored.

(b) The Value Added Approach/The Value Added Method : According to this approach, the value added at each stage of production process is included. The difference between the value of final outputs and inputs at each stage of production is called the value added.

Precautions :

(1) To avoid double counting, only the value of final goods and services must be taken into account.

(2) Goods used for self consumption by farmers and manufacturers should be estimated by guess work.

(3) Indirect taxes included in the market prices are to be deducted and subsidies given by the government to certain products should be added.

(4) Changes in the price level between different years must be taken into account.

(5) Value of exports should be added and value of imports should be deducted.

(6) Depreciation of capital assets must be deducted.

(7) Sales and purchase of second hand goods should be ignored as it is not a part of current production.

(2) Income Method : This method of measuring national income is known as factor cost method. In India, the national income committee of the Central Statistical Organization uses the income method for adding up the income arising from trade, transport, professional and liberal arts, public administration and domestic services. According to this method, the income payments received by all citizens of a country, in a particular year are added up, but income received in the form of transfer payments is ignored. Thus, GNP according to income method is calculated as follows : $NI = \text{Rent} + \text{Wages} + \text{Interest} + \text{Profit} + \text{Mixed Income} + \text{Net income from abroad}$.

Precautions :

- (1) Transfer incomes or transfer payments should be ignored.
- (2) All unpaid services should be ignored.
- (3) Any income from the sale of second hand goods should be ignored.
- (4) Income from sales of shares and bonds should be ignored.
- (5) Revenue received by the government through direct taxes should be ignored.
- (6) Undistributed profits of companies, income from government property and profits of public enterprises should be included.
- (7) Imputed value of production kept for self consumption and imputed rent of owner occupied houses should be included.

(3) Expenditure Method : This method of measuring national income is also known as Outlay Method. According to this method, national income is calculated by summing up all consumption expenditure and investment expenditure made by all individuals, firms as well as the government of a country during a year. Thus, gross national product is found by using the following formula : $NI = C + I + G + (X-M) + (R-P)$.

(a) Private Final Consumption Expenditure (C) : It includes expenditure on non-durable goods, durable goods and services.

(b) Gross Domestic Private Investment Expenditure (I) : It refers to expenditure made by private businesses on replacement, renewals and new investments.

(c) Government's Final Consumption and Investment Expenditure (G) : It refers to government's expenditure on various administrative services and government's investment expenditure on creating infrastructural facilities.

(d) Net Foreign Investment/Net Exports (X-M) : It refers to the difference between exports and imports of a country during a period of one year.

(e) Net receipts (R-P) : It refers to the difference between expenditure incurred by foreigners in the country (R) and expenditures incurred abroad by residents (P).

Precautions :

- (1) To avoid double counting, expenditure on all intermediate goods and services should be ignored.
- (2) Expenditure on the repurchase of second hand goods should be ignored.
- (3) Expenditure on transfer payments should be ignored.
- (4) Expenditure on repurchase of financial assets should not be included.
- (5) Indirect taxes should be deducted.
- (6) Expenditure on only final goods and services should be included.
- (7) Subsidies should be included.

(8) Difficulties in Measuring National Income :

(A) Theoretical Difficulties : Theoretical difficulties in measuring national income are also known as conceptual difficulties. The theoretical difficulties in measuring national income are as follows :

(1) Transfer payments : It is related to difficulties related to whether or not to include transfer payments in the estimation of national income.

(2) Illegal income : It is related to difficulties related to underestimation of national income as income earned through illegal activities is not included in the estimation of national income.

(3) Unpaid services : It is related to difficulties related to whether or not to include value of unpaid services in national income.

(4) Production for self consumption : It is related to difficulties related to finding out the exact market value of goods produced for self consumption.

(5) Income of foreign firms : It is related to difficulties related to whether or not to include income of foreign firms in the estimation of national income.

(6) Valuation of government services : It is related to difficulties related to finding out the exact market value of government goods and services.

(7) Changing price level : It is related to difficulties related to finding out the exact value of national income due to changing price level.

(B) Practical Difficulties : Practical difficulties in measuring national income are also known as statistical difficulties in measuring national income. The practical difficulties in measuring national income are as follows :

(1) Problem of double counting : It arises from the failure to distinguish properly between the final and intermediate products.

(2) Existence of non-monetized sector : This is related to underestimation of national income due to exchange of goods and services for other goods and services.

(3) Inadequate and unreliable data : This is related to non-availability of adequate and accurate

data due to absence of proper machinery for the collection of data.

(4) Depreciation : This is related to difficulty in deciding the exact value of depreciation.

(5) Capital gains or losses : This is related to overestimation or underestimation of national income due to capital gains or losses respectively.

(6) Illiteracy and ignorance : This is related to lack of adequate information due to illiteracy and ignorance of people.

(7) Difficulties in the classification of working population : This is related to non-availability of accurate data about income due to the lack of occupational specialization.

(8) Valuation of inventories : This is related to difficulty in the exact valuation of inventories.

EXERCISE

1 Complete the following sentences by choosing the correct option :

(1 Mark each)

* (1) While estimating national income, we include only value of final goods and services in order to

- (a) make computation easier
- (b) avoid double counting
- (c) maximize national welfare of the people
- (d) evaluate the total economic performance of a nation

* (2) NDP is obtained by

- (a) deducting depreciation from GNP
- (b) deducting depreciation from GDP
- (c) including depreciation in GDP
- (d) including depreciation in GNP

* (3) In India, national income is estimated using

- (a) output method
- (b) income method
- (c) expenditure method
- (d) combination of output and income method

(4) National income is a concept.

- (a) stock
- (b) final
- (c) intermediate
- (d) flow

(5) The transfer income is

- (a) revenue received by selling goods
- (b) payment received for labour
- (c) profit earned from business
- (d) pension

Ans. (1) While estimating national income, we include only value of final goods and services in order to avoid double counting.

(2) NDP is obtained by deducting depreciation from GDP.

(3) In India, national income is estimated using combination of output and income method.

(4) National income is a flow concept.

(5) The transfer income is pension.

2 Choose the correct option : (1 Mark each)

* (1) Wrongly matched pair :

- (a) National Income Committee – 1949
- (b) Financial year – 1st April to 31st March
- (c) Income method – National Income = Rent + Wages + Interest + Profit + Mixed income + Net Income from abroad
- (d) Expenditure method – National Income = Rent + Wages + Interest + Profit

Options : (1) – (a); (2) – (b); (3) – (c); (4) – (d).

(2) Wrongly matched pair :

- (a) National Income – Macroeconomic concept
- (b) Services of housewife – Unpaid services
- (c) Clothes – Raw material
- (d) Unemployment allowance – Transfer income

Options : (1) – (a); (2) – (b); (3) – (c); (4) – (d)

Ans. (1) (4) – (d) (2) (3) – (c).

3 Complete the correlation : (1 Mark each)

* (1) : $C + I + G + (X-M)$:: GNP : $C + I + G + (X-M) + (R-P)$

* (2) Output method : :: Income method : Factor cost method

* (3) Theoretical difficulty : Transfer payments :: : Valuation of inventories

(4) : Export :: M : Import

(5) Capital : Interest :: Entrepreneur :

Ans. (1) GDP (2) Inventory method (3) Practical difficulty (4) X (5) Profit.

4 Give economic terms : (1 Mark each)

(1) Factor payment received by land in the form of money.

(2) Factor payment received by labour in the form of money.

(3) Wear and tear of capital assets due to their use in the process of production.

(4) The flow of goods and services produced in an economy during a year.

(5) The difference between the value of exports and imports during a year.

Ans. (1) Rent (2) Wages (3) Depreciation

(4) National income (5) Net exports.

5 Assertion and Reasoning Type Questions : (1 Mark each)

(1) **Assertion (A) :** Scholarship is not included in the national income.

Reasoning (R) : On the one hand, scholarship is an income received by income, but on the other hand it is a government expense.

(1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

(2) **Assertion (A) :** Double counting leads to lower estimates of national income.

Reasoning (R) : Due to double counting, the value of a single commodity is calculated twice in the national income measurement.

(1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (2) (A) is false, but (R) is true.

*** 6 Identify and explain the concepts from the given illustrations : (2 Marks each)**

(1) Vrinda receives monthly pension of ₹ 5,000/- from the State Government.

Ans. (A) Identified concept : Transfer income

(B) **Explanation of concept :** If the expenditure incurred by another person/organization is received by an individual in the form of income without any form of productive work, then such income is called 'transfer income'.

(2) Viru kept aside 100 kgs. out of 500 kgs. of wheat produced in his farm for his family.

Ans. (A) Identified concept : Product for self consumption.

(B) **Explanation of concept :** The product for self-consumption is the part of the product that is set aside to meet the needs of oneself and one's family.

(3) Sheetal purchased wheat flour for her bakery from the flour mill.

Ans. (A) Identified concept : Private investment expenditure.

(B) **Explanation of concept :** Expenditure incurred by an entrepreneur or a private entity on raw materials, machinery, etc. for the manufacture

of various goods and services is called private investment expenditure.

(4) Shobha collected data regarding the money value of all final goods and services produced in the country for the financial year 2018-2019.

Ans. (A) Identified concept : Measure of national income by product method.

(B) Explanation of concept : Measurement of national income by summing the economic values of all final goods and services produced in

a particular financial year is a measure of national income by product method.

(5) Rajendra has a total stock of 500 gel pens in his shop which includes the 200 gel pens produced in the previous financial year.

Ans. (A) Identified concept : Inventories.

(B) Explanation of concept : Inventories refer to the stock of raw materials, medium goods, semi-finished goods and final goods in the current financial year and in the previous financial year available to the producer.

7 Distinguish between the following :

(2 Marks each)

(1) Gross Domestic Product and Net Domestic Product :

Gross Domestic Product	Net Domestic Product
1. Meaning	
Gross Domestic Product is the gross market value of all final goods and services produced within the domestic territory of a country during a financial year.	Net Domestic Product is the net value of all final goods and services produced within the domestic territory of a country during a financial year.
2. Formula	
$GDP = C + I + G + (X-M)$	$NDP = C + I + G + (X-M) - D$

(2) Gross National Product and Net National Product :

Gross National Product	Net National Product
1. Meaning	
Gross National Product is the total measure of flow of all goods and services at market value resulting from current production during a financial year in a country, including net income from abroad.	Net National Product is the net value of all goods and services at market value resulting from current production during a financial year in a country, including net income from abroad.
2. Formula	
$GNP = C + I + G + (X-M) + (R-P)$	$NNP = C + I + G + (X-M) + (R-P) - D$

(3) Gross National Product and Gross Domestic Product :

Gross National Product	Gross Domestic Product
1. Meaning	
Gross National Product is the total measure of flow of all goods and services at market value resulting from current production during a financial year in a country, including net income from abroad.	Gross Domestic Product is the gross market value of all final goods and services produced within the domestic territory of a country during a financial year.
2. Formula	
$GNP = C + I + G + (X-M) + (R-P)$	$GDP = C + I + G + (X-M)$

(4) Net National Product and Net Domestic Product :**Net National Product**

Net National Product is the net value of all goods and services at market value resulting from current production during a financial year in a country, including net income from abroad.

Net Domestic Product

Net Domestic Product is the net value of all final goods and services produced within the domestic territory of a country during a financial year.

1. Meaning**2. Formula**

$$NNP = C + I + G + (X-M) + (R-P) - D$$

$$NDP = C + I + G + (X-M) - D$$

8 Answer the following : (4 Marks each)**(1) What is National Income?**

Ans. The meaning of national income can be explained with the help of the following points :

(1) The total income of the nation is called national income. In real terms, national income is the flow of all goods and services produced in an economy during a year. According to NIC "A national estimate measures the volume of commodities and services turned out during a given period counted without duplication."

(2) According to Prof. A.C. Pigou : "National dividend is that part of objective income of the community including of course income derived from abroad which can be measured in money."

(3) According to Prof. Irving Fisher : "National dividend or income consists solely of services as received by ultimate consumers, whether from their material or from their human environments."

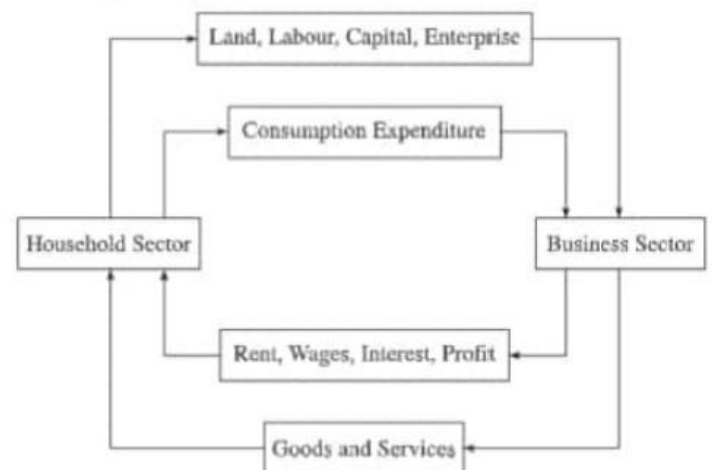
(4) From the above definitions, it is clear that national income is a composite measure of all economic activities such as production, distribution, exchange and consumption. It is also an objective indicator of economic welfare of the people in a country.

*** (2) Explain the two sector model of circular flow of national income.**

Ans. Circular flow of national income is the basic concept of macroeconomics. The two sector model of circular flow of national income can be explained with the help of the following points :

(1) The two sector model of circular flow of national income assumes that there are only two sectors, viz. household and firms in an economy.

The circular flow of national income between these two sectors is explained with the help of the following diagram :



(2) From the diagram, it can be seen that households are the owners of factors of production, viz. land, labour, capital and entrepreneur. Household sector supplies their services to the firms. Firms produce goods and services by using the services of factors of production. Firms supply goods and services to the household sector. Thus, services of factors of production flow from household sector to firms and goods and services flow from firms to household sector continuously. This flow is known as real flow or product flow. It is shown by an outer flow in the above diagram.

(3) From the diagram, it can be seen that as household sector supplies land, labour, capital and entrepreneur to the firms, it in turn receives rent, wages, interest and profit from the firms. Similarly, as firms supply goods and services to the household sector, it in turn receives the prices from household sector that are paid by household sector for purchasing those goods and services. Thus,

the factor payment flows from firms to household sector and price payment flows from household sector to the firms. This flow is known as money flow. It is shown by an inner flow in the above diagram.

(4) From the diagram, it can be seen that income of household sector gets converted into consumption expenditure. Similarly, income of firms gets converted into factor payment. Thus, the flow of income and expenditure continues as production is a continuous activity due to never ending human wants. It makes the flow of national income circular between household sector and firms.

*** (3) Explain the importance of national income.**

Ans. The importance of national income can be explained with the help of the following points :

(1) Useful for the economy : The information/data of national income is very important for the economy of a country. In present times, the national income data is regarded as accounts of the economy, which is known as 'Social Accounts'. It provides information about how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade.

(2) Helpful in framing national policies : The statistical data of national income forms the basis of national policies such as employment policy, industrial policy, agricultural policy, etc. The information about national income enables to know the direction in which the industrial output, investment and saving, etc. change. National Income also helps to generate economic models like growth model, investment models, etc. Thus, proper measures can be adopted to bring the economy to the right path.

(3) Helps in economic planning : For economic planning, data pertaining to national income is very essential. This includes data related to a country's gross income, output, savings, investment and consumption which can be obtained from different sources.

(4) Useful in economic research : National income data is also used by the research scholars of economics. For example, the data of the country's input, output, income, savings, consumption, investment employment, etc. which are obtained from social accounts helps in economic research.

(5) Helpful in comparing standard of living : National income data helps to compare the standards of living of people in different countries and of people living in the same country at different times. For example, the data about national income of developed countries and undeveloped countries help in comparing the standard of living of people of these countries.

(6) Helpful in knowing the distribution of income : National income statistics enables to know about the distribution of income in the country from the data related to wages, rent, interest and profits. This data helps in understanding the economic disparities in the incomes of different sections of the society.

*** (4) Explain the features of national income.**

Ans. The features of national income are as follows :

(1) Macroeconomic concept : National income represents income of the economy as a whole rather than that of an individual. Therefore national income is a macroeconomic concept.

(2) Inclusion of value of only final goods and services : In order to avoid double counting, the value of only final goods and services produced in the economy are considered while calculating national income. While calculating national income, the value of intermediate goods or raw materials is not considered. For example, while estimating the value of sugar, the value of sugar cane is not taken into account, as it is already included in the price of the sugar.

(3) Inclusion of net aggregate value : National income includes net value of goods and services produced and does not include depreciation cost. (i.e. wear and tear of capital assets)

(4) Inclusion of net income from abroad : National income includes net income from abroad, i.e. difference between export value and import

value (X-M) and net difference between receipts from abroad and payments made abroad (R-P).

(5) Expressed with reference to financial year : National income is always expressed with reference to a specific time period. In India, it is calculated for every financial year, i.e. from 1st April to 31st March.

(6) Flow concept : National income is a flow concept. It shows flow of goods and services produced in the economy during a financial year.

(7) Expressed in monetary terms : National income is always expressed in monetary terms. It represents only those goods and services which are exchanged for money.

(Note : Any four points are expected in answer.)

*** (5) Explain the concept of Green GNP**

Ans. The concept of Green GNP can be explained with the help of the following points :

(A) Need and Measurement : The need and measurement of Green GNP can be explained as follows :

(1) Mere increase in GNP will not reflect improvement in quality of life, when it increases environmental pollution or deplete/reduce available resources for future generations.

(2) Green GNP is an indicator of sustainable use of natural environment and equitable distribution of benefits of development. It thus takes into account the economic welfare.

(3) Green GNP is measured with the help of the following formula : $\text{Green GNP} = \text{GNP} - (\text{Net fall in stock of natural capital} + \text{pollution load.})$

(B) Characteristics of Green GNP : Following are the characteristics of Green GNP :

(1) Sustainable economic development, i.e. development which should not cause environmental degradation (pollution) and depletion of natural resources.

(2) Equitable distribution of benefits of its development.

(3) It promotes economic welfare for a long period of time.

(6) Explain the precautions to be taken while using product method of measuring national income.

Ans. The precautions to be taken while using product method of measuring national income are as follows :

(1) To avoid double counting, only the value of final goods and services must be taken into account while calculating national income.

(2) Goods used for self consumption by farmers or manufacturer should be estimated by a guess work. Imputed value of goods produced for self consumption is included in national income.

(3) Indirect taxes included in the market prices are to be deducted and subsidies given by the government to certain products should be added for accurate estimation of national income.

(4) While evaluating output, changes in the price level between different years must be taken into account.

(5) Value of exports should be added and value of imports should be deducted.

(6) Depreciation of capital assets should be deducted.

(7) Sale and purchase of second hand goods should be ignored as it is not a part of current production.

(7) Explain the precautions to be taken while using income method of measuring national income.

Ans. The precautions to be taken while using income method of measuring national income are as follows :

(1) Transfer incomes or transfer payments like scholarships, gifts, donations, charity, old age pensions, unemployment allowance, etc. should be excluded from the measurement of national income.

(2) All unpaid services like services of a housewife, teacher teaching her/his child, should be ignored while calculating national income.

(3) Any income from sale of second hand goods like car, house, etc. should be ignored.

(4) Income from sale of shares and bonds should be ignored, as they do not add anything to the real national income.

(5) Revenue received by the government through direct taxes, should be ignored, as it is only a transfer of income.

(6) Undistributed profits of companies, income from government property and profits from public enterprises such as water supply, should be included.

(7) Imputed value of production kept for self-consumption and imputed rent of owner occupied houses should be included.

(8) Explain the precautions to be taken while using expenditure method of measuring national income.

Ans. The precautions to be taken while using expenditure method of measuring national income are as follows :

(1) To avoid double counting, expenditure on all intermediate goods and services should be ignored while calculating national income.

(2) Expenditure on the repurchase of second hand goods, should be ignored, as it is not incurred on currently produced goods.

(3) Expenditure on transfer payments like scholarships, old age pensions, unemployment allowance, etc. should be ignored.

(4) Expenditure on repurchase of financial assets such as shares, bonds, debentures, etc., should not be included, as such transactions do not add to the flow of goods and services.

(5) Indirect taxes should be deducted from the calculation of national income.

(6) Expenditure on only final goods and services should be included.

(7) Subsidies should be included while measuring national income.

(9) What is double counting of national income?

Ans. (1) National income includes the money value of only final goods and services. The money value of intermediate goods already gets included in the money value of final goods and services.

(2) But many times it becomes difficult to distinguish properly between a final product and intermediate product. For example, flour used by a bakery is considered as intermediate product

but if it is used by a household, it is final product. Therefore, sometimes the flour used by a bakery is taken wrongly as a final product.

(3) A separate accounting of the values of intermediate goods (wheat, flour, etc.) along with the accounting of the value of final product (bread) would lead to double counting.

(4) Double counting leads to overestimation of the national income. Due to double counting, the national income gets overestimated. Double counting is the greatest difficulty in measuring national income.

(10) Explain the income method of measuring national income.

Ans. Income method of measuring national income is also known as factor cost method. This method approaches national income from the distribution side. This method can be explained with the help of the following points :

(1) According to this method, the income payments received by all citizens of a country, in a given year are added up. The data pertaining to income are obtained from income tax returns, reports, books of accounts as well as estimates from small income.

(2) In this method, the incomes accrued to land, labour, capital and entrepreneur in the forms of rents, wages, interest and profits are all added together. The sum of factor income is treated as Gross National Product. However, in this method, the income received in the form of transfer payments is ignored.

(3) In India, the national income committee of the Central Statistical Organization uses the income method for adding up the income arising from trade, transport, professional and liberal arts, public administration and domestic services.

(4) GNP according to income method is calculated as follows : $NI = \text{Rent} + \text{Wages} + \text{Interest} + \text{Profit} + \text{Mixed Income} + \text{Net income from abroad}$.

(11) Explain the expenditure method of measuring national income.

Ans. Expenditure method of measuring national income is also known as Outlay Method. According to this method, national income is calculated by summing up all consumption expenditure and

investment expenditure made by all individuals, firms as well as the government of a country during a year. Thus, gross national product is found by using the following formula : $NI = C + I + G + (X-M) + (R-P)$. The expenditure method can be explained with the help of the following points :

(1) Private Final Consumption Expenditure (C) : Private final consumption expenditure by households may be on non-durable goods such as food which are used immediately, or on durable goods such as car, computer, television set, washing machine, which are generally used for a longer period of time or on services such as transport services, medical services, etc. National income takes into account the private final consumption expenditure.

(2) Gross Domestic Private Investment Expenditure (I) : It refers to expenditure made by private businesses on replacement, renewals and new investments. National income takes into account the gross domestic private investment expenditure.

(3) Government's Final Consumption and Investment Expenditure (G) : Government's final consumption expenditure refers to the expenditure incurred by government on various administrative services like law and order, defense, education, etc. Government's investment expenditure refers to the expenditure incurred by government on creating infrastructural facilities such as construction of roads, railways, bridges, dams, canals, which are used by the business sector for production of goods and services in any economy. National income takes into account the government's final consumption expenditure and investment expenditure.

(4) Net Foreign Investment/Net Exports (X-M) : It refers to the difference between exports and imports of a country during a period of one year. National income takes into account the value of net exports.

(5) Net receipts (R-P) : It refers to the difference between expenditure incurred by foreigners in the country (R) and expenditures incurred abroad by residents (P). National income takes into account the value of net receipts.

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

*** (1) There are many theoretical difficulties in the measurement of national income.**

Ans. Yes, I agree with this statement.

Reasons : Following are some of the theoretical difficulties in measuring national income :

(1) Transfer payments : Some people from an economy receives pension, unemployment allowances, etc. Though pension, unemployment allowances, etc. is considered as an individual's income, it is not an earned income. Individual receives this income from government's expenditure. Therefore it becomes difficult to decide whether or not to include such income in national income.

(2) Illegal income : Illegal incomes received by selling goods and services by following illegal activities like gambling, black marketing, theft, smuggling, etc. are not included in national income. But these goods and services do have the value and meet the needs of the consumers. Thus, excluding income from illegal activities leads to underestimation of national income.

(3) Similarly, there are theoretical difficulties in measuring national income related to unpaid services (for example, services of housewives), production for self consumption, income of foreign firms, valuation of government services, changing price level, etc.

Thus, there are many theoretical difficulties in measurement of national income.

*** (2) Under output method, value added approach is used to avoid double counting.**

Ans. Yes, I agree with this statement.

Reasons : (1) According to output method, the value added at each stage of production process is included. The difference between the value of final outputs and inputs at each stage of production is called value added.

(2) Thus, GNP is obtained as the sum total of the values added by all different stages of the production process, till the final output is reached in the hands of consumers, to meet the final demand.

(3) This can be illustrated with the help of the following table :

Production Stage	Value of Output (₹)	Value of Input (₹)	Value Added (₹)
Sugar cane (Farmer)	30	0	30
Sugar (Manufacturer)	50	30	20
Retailer (Merchant)	60	50	10
Total Value			60

In the given example, a farmer produces and sells sugar cane for ₹ 30 to the sugar manufacturer. Sugar manufacturer sells sugar for ₹ 50 to the retailer. Retailer sells sugar for ₹ 60 to the consumer. So the value added by farmer (₹ 30), manufacturer (₹ 20), and retailer (₹ 10) i.e. total of ₹ 60 is included in national income.

(3) Gross National Product and Gross Domestic Product are same concepts.

Ans. No, I disagree with this statement.

Reasons : (1) Gross National Product is the total measure of the flow of goods and services at market value resulting from current production during a year in a country, including net income from abroad.

(2) Gross Domestic Product is the gross market value of all final goods and services produced within the domestic territory of a country during a period of one year. Net income from abroad is excluded from Gross Domestic Product.

(3) The formula of Gross National Product is as follows : $GNP = C + I + G + (X-M) + (R-P)$.

Whereas, the formula of Gross Domestic Product is as follows : $GDP = C + I + G + (X-M)$.

Therefore, Gross National Product and Gross Domestic Product are not same concepts, but are different concepts.

(4) The money value of intermediate goods is included in the estimation of national income.

Ans. No, I disagree with this statement.

Reasons : (1) National income includes the money value of only final goods and services. The money value of intermediate goods already get

included in the money value of final goods and services.

(2) For example, in the value of the final product i.e. bread, the values of intermediate goods are already included.

(3) A separate accounting of the values of intermediate goods (wheat, flour, etc.) along with the accounting of the value of final product (bread) would lead to double counting. Due to double counting, the national income gets overestimated.

Therefore to avoid the error of double counting, the money value of intermediate goods is not included in the estimation of national income.

10 Answer the following questions in detail : (8 Marks each)

(1) Explain the theoretical difficulties in measuring national income.

Ans. Theoretical difficulties in measuring national income are also known as conceptual difficulties. The theoretical difficulties in measuring national income are as follows :

(1) Transfer payments : Individuals retired from services get pension. Unemployed people get unemployment allowance, etc. Though pension, unemployment allowances, etc. is considered as an individual's income, it is not an earned income. Individual receives this income from government's expenditure. Therefore it becomes difficult to decide whether or not to include such income in national income. Generally, transfer payments are ignored while estimating national income.

(2) Illegal income : Illegal incomes received by selling goods and services by following illegal activities like gambling, black marketing, theft, smuggling, etc. is not included in national income. But these goods and services do have the value and meet the needs of the consumers. Thus, excluding income from illegal activities leads to underestimation of national income.

(3) Unpaid services : National income is always measured in money, but there are a number of goods and services which are difficult to be assessed in terms of money. For example, painting as a hobby

by an individual, the bringing up of children by mother; these services are not included in national income as remuneration is not given to them. Also services of housewives and the services provided out of love, affection, mercy, sympathy and charity are not included in national income as they are not paid for. By excluding all such services, the national income is underestimated.

(4) Production for self consumption : Goods produced for self consumption such as food grains, vegetables and other farm produce do not enter the market. Therefore, it becomes difficult to find out their exact market value. Therefore, the value of such goods is estimated at the rate of market price of the goods that have been marketed. Thus, the approximate values of the goods produced for self consumption are added in the national income.

(5) Income of foreign firms : According to International Monetary Fund's viewpoint, income of a foreign firm should be included in national income of a country, where the firm actually undertakes production work. However, profits earned by foreign firms are credited to their home country. Therefore, it becomes difficult to decide whether or not to include the income of foreign firms in the national income.

(6) Valuation of Government Services : Government provides a number of public services such as law and order, defence, public administration, education, health services, etc. Measuring the exact market value of such government services is quite difficult, as the real value of these services is not known. Therefore, these services are considered as final consumption and their approximate values are added in the national income.

(7) Changing price level : Difficulties in calculating national income also arise due to changes in price levels. For example, when the price level rises, the national income may show an increase even though the production may have decreased. Also, when the price level falls, the national income may show a decrease even though there may be an increase in production. Thus, it becomes difficult

to estimate national income exactly due to changing price level.

*** (2) Explain the practical difficulties involved in the measurement of national income.**

Ans. Practical difficulties in measuring national income are also known as statistical difficulties in measuring national income. The practical difficulties in measuring national income are as follows :

(1) Problem of double counting : The greatest difficulty in calculating national income is of double counting. It arises from the failure to distinguish properly, between a final and an intermediate product. For example, flour used by a bakery is an intermediate product and that by a household is final product. Therefore, sometimes the flour used by bakery is taken wrongly as a final product. This results in the problem of double counting. Double counting leads to overestimation of national income.

(2) Existence of non-monetized sector : In a developing country like India, especially in rural areas, there exists the non-monetized sector. In India, agriculture, still being in the nature of subsistence farming, a major part of production is consumed at the farm itself and a very small part produced is exchanged for other goods and services. Thus, exchange activities are carried out without the use of money. Therefore, they are not calculated in national income.

(3) Inadequate and unreliable data : In developing country like India, no permanent machinery exists for the collection of data. Therefore, adequate and correct data on production and cost data relating to crops, fisheries, animal husbandry, forestry, construction workers, small enterprises, etc. are not available. Besides this, data on unearned incomes, consumption and investment expenditure of rural and urban population are also not available. This does not reveal the actual size of national income and it leads to underestimation of national income.

(4) Depreciation : Depreciation refers to wear and tear of capital assets, due to their use in the

process of production. There are no uniform, common or accepted standard rates of depreciation applicable to the various capital assets. Thus, it is difficult to make correct deductions for depreciation due to an element of subjectivity.

(5) Capital gains or losses : Capital gains or capital losses, which accrue to the property owners by increase or decrease in the market value of their capital assets or changes in demand, are not included in the national income because these changes do not result from current economic activities.

(6) Illiteracy and ignorance : Due to illiteracy and ignorance, small producers do not keep an account of their production. So they cannot give information about the quantity or value of their output. This distorts the estimation of national income.

(7) Difficulties in the classification of working population : In India, working population is not clearly defined. For instance, farmers in India are not engaged in agriculture all round the year. Obviously, in the off season, they engage themselves in alternative occupations. In such a case, it is very difficult to identify their incomes from a particular occupation. This leads to underestimation of national income.

(8) Valuation of inventories : Raw materials, intermediate goods, semi-finished and finished products in the stock of the producers are known as inventories. Valuation of inventories requires careful assessment. Any mistake in measuring the value of inventory, distorts the value of the final production of the producer which in turn distorts the estimation of national income.

*** (3) Explain the income method and expenditure method of measuring national income.**

Ans. (A) Income method of measuring national income : For the answer, refer to Q. 8 (9) Answer the following.

(B) Expenditure method of measuring national income : For the answer, refer to Q. 8 (10) Answer the following.

(4) Explain the final goods approach to avoid double counting of goods and services in the estimation of national income.

Ans. The national income is calculated by various methods. The output method is one of the methods of measuring national income. In this method, the national income is calculated either by valuing all the final goods and services, produced during a year at their market price or by adding up all the values at each higher stage of production until these products are turned into final products. To avoid double counting, this method uses either the final goods approach or the value added approach for estimation of national income. The final goods approach can be explained with the help of the following points :

(1) Final goods are those goods which are ready for final consumption.

(2) According to final goods approach, the value of all final goods and services produced in primary, secondary and tertiary sector are included and the value of all intermediate goods are ignored.

(3) For example, bread is the final good. The price of bread includes the cost of wheat, making of flour, etc.

(4) Wheat and flour are both intermediate goods. Their values are paid up during the process of production of bread.

(5) In the value of the final product, i.e. bread, the values of intermediate goods are already included.

(6) A separate accounting of the values of intermediate goods (wheat, flour, etc.) along with the accounting of the value of final product (bread) would lead to double counting.

(7) To avoid this double counting, the value of only final product is computed.

(5) Explain the value added approach of output method of measuring national income.

Ans. The national income is calculated by various methods. The output method is one of the methods of measuring national income. In this method, the national income is calculated either by valuing all the final goods and services, produced during a year at their market price or by adding up all the values at each higher stage of production

until these products are turned into final products. To avoid double counting, this method uses either the final goods approach or the value added approach for estimation of national income. The value added approach can be explained with the help of the following points :

(1) According to this approach, the value added at each stage of production process is included.

(2) The difference between the value of final outputs and inputs at each stage of production is called value added.

(3) Thus, GNP is obtained as the sum total of the values added by all different stages of the production process, till the final output is reached in the hands of consumers, to meet the final demand.

(4) This can be illustrated with the help of the following table :

Production Stage	Value of Output (₹)	Value of Input (₹)	Value Added (₹)
Wheat (Farmer)	7	0	7
Flour (Flour mill)	10	7	3
Bread (Baker)	13	10	3
Retailer (Merchant)	14	13	1
Total Value			14

(5) In the above example a much simplified model of an economy, producing only a single final product, i.e. bread is assumed. It is assumed that there are four productive stages in the production of bread.

(6) In the given example, a farmer produces and sells wheat for ₹ 7 to the miller. Miller sells flour for ₹ 10 to the baker. Baker sells bread for ₹ 13 to the retailer. Retailer sells bread for ₹ 14 to the consumer.

(7) So the value added by farmer (₹ 7), miller (₹ 3), baker (₹ 3) and retailer (₹ 1) i.e. total of ₹ 14 is included in national income.

* * *

IMPORTANT CONCEPTS

- (1) **Public Finance** : According to Findlay Shirras, "Public finance is the study of the principles underlying the spending and raising of funds by public authorities."
- (2) **Financial Administration** : Financial administration is the smooth and efficient implementation of government policy about its revenue, expenditure and debt.
- (3) **Budget** : The 'budget' is the financial statement of government of its expected receipts and planned expenditure for the coming financial year.

CHAPTER AT A GLANCE

1. Introduction :

(1) Public finance is one of the old branches of economics which highlights the role and functions of the government in an economy.

(2) Government is a formal or informal institution created by people in a specific region to perform various functions.

(3) Government performs various obligatory functions such as protection from external attacks, maintaining internal law and order, etc. Similarly, it also performs various optional functions such as providing education and health services, undertaking various social and welfare measures, etc.

2. Meaning and Nature of Public Finance :

(1) The concept of public finance is a combination of two words 'public' and 'finance'.

(2) Public finance is a branch of economics studying the principles of income and expenditure of the government at central, state and local levels.

(3) According to **Hugh Dalton**, "Public finance is one of those subjects which are on the borderline between economics and politics. It is concerned with the income and expenditure of public authorities and with the adjustment of one with the other."

(4) According to Prof. **Findlay Shirras**, "Public finance is the study of the principles underlying the spending and raising of funds by public authorities."

3. Differences Between Public Finance and Private Finance :

Differences between public finance and private finance are explained in the following table :

Points of Difference	Public Finance	Private Finance
1. Objective	To offer maximum social advantage to the society.	To fulfil private interests.
2. Determination of Expenditure	Government determines the volume and different ways of its expenditure.	An individual considers his income and then determines the volume of expenditure.
3. Credit Status	High degree of credit in the market.	Comparatively low degree of credit in the market.
4. Right to Print Currency	The Government can print currency notes through Reserve Bank of India.	Private individual does not enjoy the right of printing currency notes.
5. Elasticity of Finance	More elastic.	Comparatively less elastic.
6. Effect on economy	Tremendous impact on the economy of a country.	Marginal impact on the economy of a country.

4. Structure of Public Finance :**(A) Public Expenditure :**

(1) The expenditure incurred by the Central authority, State authority and Local bodies for protecting their citizens, for satisfying collective needs of their citizens and for promoting economic and social welfare is known as public expenditure.

(2) Till the 20th century, the majority of the governments had adopted a policy of laissez faire. But the modern governments perform obligatory as well as optional functions leading to growth in public expenditure.

(3) **Classification of Public Expenditure :** The classification of public expenditure is explained in the following table :

Types of Public Expenditure	Explanation
1. Revenue Expenditure	Expenditure incurred for carrying out day-to-day functions of the government departments and various services. For example, expenditure incurred for paying salaries, allowances of government employees.
2. Capital Expenditure	Expenditure incurred for economic growth and development of the country. For example, expenditure in the form of repayment of government loans.
3. Developmental Expenditure	Expenditure which yields direct productive impact on the country. For example, expenditure on health, education, industrial development, etc.
4. Non-Developmental Expenditure	Expenditure which does not yield any direct productive impact on the country. For example, expenditure on administrative services, war, etc.

(4) **Reasons for Growth in Public Expenditure :** The reasons for growth in public expenditure are explained in the following table :

Reasons for Growth in Public Expenditure	Explanation
1. Increase in the Activities of the Government	Increase in the functions of modern government leading to an increase in the growth of public expenditure.
2. Rapid Increase in Population	Fulfilment of the needs of increasing population by government leading to an increase in the growth in public expenditure.
3. Growing Urbanization	Supply of various services in newly formed urban areas by government leading to an increase in the growth in public expenditure.
4. Increasing Defence Expenditure	Unstable and hostile international relationships leading to an increase in the growth in public expenditure on defence.
5. Spread of Democracy	Expenditure on regular elections by government leading to an increase in the growth in public expenditure.
6. Inflation	Rise in the prices of goods and services purchased by government leading to an increase in the growth in public expenditure.
7. Industrial Development	Implementation of various schemes and programmes for industrial development by government leading to an increase in the growth of public expenditure.
8. Disaster Management	Management of various natural and man-made calamities by government leading to an increase in the growth of public expenditure.

(B) Public Revenue :

(1) The aggregate collection of income with the government through various sources is called public revenue. The necessity of public revenue arises due to public expenditure. Taxes and non-tax revenue are the two main sources of public revenue.

(2) According to **Prof. Seligman**, "A tax is a compulsory contribution from the person to the government without reference to special benefits conferred."

(3) **The essential characteristics of a tax are :**

(a) It is a compulsory contribution. (b) It is

imposed by government to incur expenses in the common interest of the society. (c) The payment of a tax by a person does not entitle him to receive any direct benefit from the government. (d) It is imposed on income, property or commodities and services.

(4) **The canons (principles) of taxation are :**

(a) Canon of equity or equality (b) Canon of certainty (c) Canon of convenience (d) Canon of economy.

(5) The sources of tax revenue of government are explained in the following table :

Sources of Tax Revenue	
Direct Taxes	Indirect Taxes
1. The impact and incidence of tax is on same head.	1. The impact of tax is on one person and the incidence of tax is on another person.
2. Examples : Income tax, property tax, etc.	2. Examples : Goods and Services Tax, Custom Duty, etc.

(6) The sources of non-tax revenue of government are explained in the following table :

The Sources of Non-Tax Revenue	Explanation
1. Fees	Compensation paid by the consumer for the service provided by the government. For examples, tuition fees.
2. Prices of public goods and services	Compensation paid for purchase of goods and services made available for sale by the government. For example, train fares.
3. Special assessment	Compensation paid by citizens for special facilities provided to citizens in certain areas by the government. For example, compensation for water supply, energy supply to citizens in certain areas.
4. Fines and penalties	The amount paid by the concerned person for violating the laws of the country. For example, fines paid for violating traffic rules.
5. Gifts, grants and donations	Amounts in the form of gifts, grants or donations received from citizens of the country, foreign governments or foreign organizations for general or specific purposes. For example, donations to the government for disaster management.
6. Special levies	Taxes levied on unhealthy goods for the purpose of discouraging people from consuming unhealthy goods. For example, taxes on intoxicants.
7. Borrowings	Loans raised on the basis of internal or external sources. For example, amounts in the form of public deposits or loans taken from the World Bank.

(C) Public Debt :

(1) Just as a person needs a loan to meet his expenses at the individual level, the government also needs to raise a loan to meet its growing public expenditure needs.

(2) **Types of public debt :** The types of public debt are explained with the help of the following table :

Types of Public Debt	
Internal Debt	External Debt
1. Debt raised on the basis of financial resources within the economy.	1. Debts raised on the basis of financial resources outside the economy.
2. For example, loans taken from citizens of the country, banks of the country, central bank of the country, financial institutions of the country, etc.	2. For example, loans taken from foreign banks or institutions or international institutions such as International Monetary Fund, World Bank, etc.
3. Voluntary or compulsory in nature, uses domestic currency and is less complicated to manage.	3. Voluntary in nature, use of foreign currency and is more complex to manage.

(D) Fiscal Policy :

(1) The means by which the government adjusts its expenditure level and tax rate to monitor and influence the economy of the country is called the fiscal policy.

(2) The fiscal policy is the financial policy implemented by government which deals with public expenditure and public revenue and public debt.

(E) Financial Administration :

(1) Financial administration means a smooth and efficient implementation of revenue, expenditure and debt policy of the government.

(2) Financial administration includes preparation and implementation of budget.

(3) The word 'Budget' is derived from the French word 'Bougette'.

(4) The financial year in India is from 1st April to 31st March. In every budget, a set of seven budget documents describe the details of government finance in India.

(5) **Central Budget Provisions :** The Central Budget provisions are shown in the following table:

Central Budget Provisions	
Revenue Budget	Capital Budget
1. Consists of revenue receipts and revenue expenditure.	1. Consists of capital receipts and capital expenditure.
2. Examples of revenue receipts : Tax revenue and non-tax revenue.	2. Examples of capital receipts : Loans raised from the Reserve Bank of India and public, loans raised from foreign institutions, etc.
3. Examples of revenue expenditure : Expenditure incurred in the form of payment of interest on loans, payment of dividends on investments, providing grants and financial assistance to states, etc.	3. Examples of capital expenditure : Expenditure incurred on development projects, loans given to state governments, loans to corporations, expenditure on social and community development, etc.

(6) **Types of Budget :** Types of budget are shown in the following table:

Types of Budget	Explanation
1. Balanced Budget	Government Receipts = Government Expenditure. Classical economists considered a balanced budget as the best. However, modern economists believe that the policy of balanced budget may not always be suitable for the modern economy.

2. Surplus Budget	Government Receipts > Government Expenditure. Useful to pull down the effective demand and to control inflation.
3. Deficit Budget	Government Receipts < Government Expenditure. Useful to push up the effective demand, investment level and employment level and to control recession.

EXERCISE

1 Choose the correct option : (1 Mark each)

[1]

(1) Optional functions of government :

- (a) Protection from external attack
- (b) Provision of education and health services
- (c) Provision of social security measures
- (d) Collection of tax

Options : (1) b and c (2) a, b and c
(3) b, c and d (4) All of the above

(2) Obligatory functions of government :

- (a) Provision of employment
- (b) Maintaining internal law and order
- (c) Welfare measures
- (d) Exporting goods and services

Options : (1) c and d (2) a and b
(3) only b (4) a, c and d

(3) Definition – "Public finance is one of those subjects which are on the borderline between economics and politics" – is given by :

- (a) Adam Smith
- (b) Alfred Marshall
- (c) Prof. Hugh Dalton
- (d) Prof Findlay Shirras

Options : (1) only a (2) only b
(3) only c (4) only d

(4) Non-tax sources of revenue :

- (a) Direct and indirect tax
- (b) Direct tax and fees
- (c) Fees
- (d) Special levy

Options : (1) b and c (2) a and c
(3) a, b, c and d (4) c and d

(5) Trends shown by public expenditure of any government shows the following trend :

- (a) Constant
- (b) Increasing
- (c) Decreasing
- (d) Fluctuating

Options : (1) only a (2) only b
(3) only c (4) only d

(6) Identify the right group of pairs from the given options :

Group A	Group B
(i) Direct tax	(a) Non-tax revenue
(ii) Indirect tax	(b) Inflation
(iii) Fees and fines	(c) GST
(iv) Surplus budget	(d) Personal income tax

Options : (a) i – d ; ii – c ; iii – b ; iv – a
(b) i – c ; ii – d ; iii – a ; iv – b
(c) i – d ; ii – c ; iii – a ; iv – b
(d) i – a ; ii – b ; iii – c ; iv – d

Ans. (1) (1) b and c (2) (3) only b (3) (3) only c
(4) (4) c and d (5) (2) only b (6) (c) i – d ; ii – c ;
iii – a ; iv – b.

[2]

Note : The activity given in 'Find Out' on Page 70 of the textbook is included here with answers by rewording it.

(1) The obligatory function of the government :

- (a) Birth registration and death registration
- (b) Restrictions on unethical and illegal trade in goods and services
- (c) Power supply and water supply
- (d) Maintaining cleanliness of public places

Options : (1) a and b (2) c and d
(3) only c (4) All of the above

(2) The optional function of the government :

- (a) Creation of public gardens and grounds
- (b) Broadcasting entertainment programmes through television
- (c) Launching a satellite into space
- (d) Granting scholarships

Options : (1) a and b (2) c and d
(3) only a (4) All of the above

Ans. (1) (4) All of the above (2) (4) All of the above.

[3]

Note : The activity given in 'Find Out' on Page 73 of the textbook is included here with answers by rewording it.

(1) The reasons for growth in public expenditure :

- (a) Village development plans
- (b) Increase in public sector functions
- (c) Declining population
- (d) Agricultural development plans

Options : (1) a and b (2) c and d
(3) a, b and d (4) a, b and c.

(2) Important social welfare schemes of the government :

- (a) Pradhan Mantri Adarsh Gram Yojana
- (b) Pradhan Mantri Suraksha Vima Yojana
- (c) Pradhan Mantri Jan Dhan Yojana
- (d) Sukanya Samrudhi Yojana

Options : (1) a and b (2) only c
(3) only d (4) All of the above

Ans. (1) (3) a, b and d (2) (4) All of the above.

2 Find the odd word : (1 Mark each)

- (1) Fees, Gifts, Grants, Goods and Services Tax.
- (2) Expenditure on health facilities, Expenditure on educational facilities, Costs of war, Retirement expenses.
- (3) Interest payments on loans, Dividend payments on investments, Non tax revenue, Grants payable.
- (4) Borrowings from Central Bank, Borrowings from International Monetary Fund, Borrowings from domestic financial institutions, Borrowings from domestic business houses.
- (5) Property tax, Tax on profits, Custom duty, Income tax.

Ans. (1) Goods and Services Tax (2) Costs of war (3) Non tax revenue (4) Borrowings from International Monetary Fund (5) Custom duty.

3 Complete the correlation : (1 Mark each)

- (1) Direct tax : Tax on property :
: Indirect tax.
- (2) Maintaining internal law : Obligatory function : : Social welfare measures :

(3) Public finance : : : Private finance :
Marginal impact on economy

(4) Administration costs : : : Research and development : Developmental expenditure.

(5) Controlling inflation : Surplus budget : : : Deficit budget.

Ans. (1) Goods and Services Tax (2) Optional function (3) Tremendous impact on economy (4) Non-Developmental expenditure (5) Controlling recession.

4 Give economic terms : (1 Mark each)

- (1) Financial transactions made for the maximum benefit of the society.
- (2) Expenditure incurred on various government departments and services.
- (3) Compulsory contribution from the person to the government without reference to special benefits conferred.
- (4) Amount to be paid by the concerned person in case of violation of law.
- (5) Debts raised by the government on the basis of financial resources outside the country.

Ans. (1) Public finance (2) Revenue expenditure (3) Tax (4) Fine (5) External debt.

5 Assertion and Reasoning Type Questions : (1 Mark each)

Note : The activity given in 'Find Out' on Page 77 of the textbook is included here with answers by rewording it.

(1) **Assertion (A) :** Government sells bonds to its citizens.

Reasoning (R) : Selling bonds is important type of internal debt.

(1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

(2) Assertion (A) : Debt raised by the government from borrowings from World Bank is an internal debt.

Reasoning (R) : Government of India borrowing (can borrow) funds from the World bank for provision of water supply.

- (1) (A) is true, but (R) is false.
- (2) (A) is false, but (R) is true.
- (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are true and (R) is not the correct explanation of (A).

Ans. (2) (A) is false, but (R) is true.

(3) Assertion (A) : Government of India takes loans from Nationalized Banks for developing infrastructural facilities.

Reasoning (R) : Loans taken by government for developing infrastructural facilities from Nationalized Banks is an internal debt.

- (1) (A) is true, but (R) is false.
- (2) (A) is false, but (R) is true.
- (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

(4) Assertion (A) : Debt raised by the government from borrowings from World Bank is an external debt.

Reasoning (R) : Government of India takes (may take) loans from World Bank for Mumbai Metro Train.

- (1) (A) is true, but (R) is false.
- (2) (A) is false, but (R) is true.
- (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

6 Identify and explain the concepts from the given illustrations : (2 Marks each)

(1) Rohini used to have to pay less income tax when her income was low, but now she has to pay more income tax due to increase in income.

Ans. (A) Identified concept : Progressive tax structure.

(B) Explanation of concept : If the tax rates increase in proportion to the increase in the income of the individual, such a tax structure is called a progressive tax structure.

(2) Shailesh borrowed money from a friend to buy machinery.

Ans. (A) Identified concept : Private finance.

(B) Explanation of concept : The financial transactions that an individual or a private enterprise carry out to fulfil private interests are called private finance.

7 Distinguish between the following :

(2 Marks each)

* **(1) Public Finance and Private Finance :**

Ans.

Public Finance

Private Finance

1. Meaning

The financial transactions carried out by the government with the objective of providing maximum social advantage to the society are called public finance.

The financial transactions carried out by an individual or a private enterprise to fulfil private interest are called private finance.

2. Elasticity

Public finance is comparatively more elastic. There is much scope for changes in public finance.

Private finance is comparatively less elastic. There is not much scope for changes in private finance.

*** (2) Internal Debt and External Debt :****Ans.**

Internal Debt	External Debt
1. Meaning	
Debt raised by the government from borrowings from economic sources within the economy is called internal debt.	Debt raised by the government from borrowings from economic sources outside the economy is called external debt.
2. Nature of Management	
Internal debt is comparatively less complex for management.	External debt is comparatively more complex for management.

*** (3) Developmental Expenditure and Non-Developmental Expenditure :****Ans.**

Developmental Expenditure	Non-Developmental Expenditure
1. Meaning	
The government expenditure which yields direct productive impact on the economy is called developmental expenditure.	The government expenditure which does not yield any direct productive impact on the economy is called non-developmental expenditure.
2. Examples	
Expenditure incurred on health, education, industrial development, etc. are the examples of developmental expenditure.	Expenditure incurred on administrative services, war, social welfare, etc. are the examples of non-developmental expenditure.

*** (4) Special Assessment and Special Levy :****Ans.**

Special Assessment	Special Levy
1. Meaning	
The payment made by the citizens of a particular locality in exchange for certain special facilities given to them by the authorities is known as special assessment.	A duty levied by the government on unhealthy items with the basic intention of discouraging citizens from consuming unhealthy items is known as special levy.
2. Examples	
A special tax levied by local bodies on the residents of a particular area where extra/special facilities of roads, energy, water supply are provided is an example of special assessment.	Duty levied on wine, opium and other intoxicants are the examples of special levy.

*** (5) Direct Tax and Indirect Tax :****Ans.**

Direct Tax	Indirect Tax
1. Meaning	
A tax which is levied on the income or property of an individual and so in which the impact and incidence of tax is on same head is called direct tax.	A tax which is levied on goods and services and so in which the impact of tax is on one person (seller) and the incidence of tax is on another person (buyer) is called indirect tax.

2. Examples

Income tax, property tax, etc. are the examples of direct tax.

Goods and Services Tax, Custom Duty, etc. are the examples of indirect tax.

(6) Revenue Expenditure and Capital Expenditure :**Ans.****Revenue Expenditure****Capital Expenditure****1. Meaning**

The expenditure incurred by government for carrying out day-to-day functions of the government departments and administrative services is called revenue expenditure.

The expenditure incurred by the government for economic growth and development of a country is called capital expenditure.

2. Examples

Administrative costs paid by the government, payment of salaries, allowances and pension of government employees, costs incurred by government for providing medical and public health facilities, etc. are the examples of revenue expenditure.

Huge investments by government in various developmental projects, loans granted by central government to the state government and government companies, repayment of government loans, etc. are the examples of capital expenditure.

8 Answer the following : (4 Marks each)**(1) Explain the concept of Balanced Budget.**

Ans. The concept of balanced budget is explained in the following points :

(1) A government budget is said to be balanced when its estimated revenue and anticipated expenditure are equal. Balanced budget can be expressed symbolically as follows :

Balanced Budget = Government Receipts = Government Expenditure.

(2) The concept of balanced budget has been advocated by classical economists like Adam Smith. Classical economists considered a balanced budget as neutral in its effect on the working of the economy and therefore regarded it as the best.

(3) However, modern economists believe that the policy of balanced budget may not always be suitable for the modern economy. Modern economists are of the opinion that budget policy has to change according to the fluctuations in the economy.

(4) Modern economists are of the opinion that, modern governments being welfare entities cannot keep their expenditure at the level of their receipts. Therefore, in modern times balanced budget is considered only as a theoretical concept.

(2) Write in brief about Surplus Budget.

Ans. (1) When estimated government receipts are more than the estimated government expenditure, then the budget is termed as surplus budget. Surplus budget can be expressed symbolically as follows :

Surplus Budget = Government Receipts > Government Expenditure

(2) A surplus budget proves useful during the period of inflation. In the period of inflation, there is a tendency for prices to rise rapidly. To control inflation, the amount of public expenditure is decreased and the level of taxation is increased. As its effect, at one hand, the purchasing power of people decreases and the amount of government revenue increases. A rise in taxation level leads to a fall in effective demand, which in turn leads to fall in aggregate output, aggregate investment level and employment level. As its effect, the price level starts moving downwards.

(3) However, the surplus budget should not be used in situations other than the inflationary gap, as it may lead to unemployment and low levels of output in an economy.

(3) Write in brief about Deficit Budget.

Ans. (1) When estimated government receipts are less than the estimated government expenditure,

then the budget is termed as deficit budget. Deficit budget can be expressed symbolically as follows :

Deficit Budget = Government Receipts < Government Expenditure

(2) A deficit budget proves useful during the period of recession. In the period of recession, there is a tendency for employment level to fall rapidly. To control recession, the amount of public expenditure is increased and the level of taxation is decreased. As its effect, at one hand, the purchasing power of people increases and the amount of government revenue decreases. A fall in taxation level leads to a rise in effective demand, which in turn leads to rise in aggregate output, aggregate investment level and employment level. As its effect, the price level starts moving upwards.

(3) In modern times, deficit budget is the most commonly implemented policy of any government. Developing countries like India have consistently resorted to deficit budget for boosting the economic growth and development.

*** (4) State the types and importance of government budget.**

Ans. The types and importance of government budget is as followings :

(A) Balanced budget :

(1) **Meaning :** A budget in which government's estimated revenue and its anticipated expenditure is equal to each other is called balanced budget.

(2) **Importance :** Classical economists considered a balanced budget as the best budget. However, according to modern economists it may not be always suitable for the modern economy.

(B) Surplus budget :

(1) **Meaning :** A budget in which government's estimated revenue exceeds its anticipated expenditure is called surplus budget.

(2) **Importance :** Surplus budget is used during inflation to pull down the effective demand.

(C) Deficit budget :

(1) **Meaning :** A budget in which government's anticipated expenditure exceeds its estimated revenue is called deficit budget.

(2) **Importance :** Deficit budget is used during depression to push up the effective demand.

*** (5) Explain the principles of taxation.**

Ans. The principles (canons) of taxation propounded by Adam Smith are as follows :

(1) **Canon of equity or equality :** Adam Smith suggested that every person will pay the taxes to the government in proportion to his/her 'ability to pay'. It means rich people should pay more tax compared to the poor.

(2) **Canon of certainty :** According to Adam Smith, the taxpayer should know in advance how much tax he/she has to pay, at what time he/she has to pay the tax and in what form the tax is to be paid to the government.

(3) **Canon of convenience :** According to this canon, every tax should be levied in such a manner and at such a time that its payment becomes convenient to the tax payer.

(4) **Canon of economy :** According to this canon, the cost of tax collection should be the minimum. If a major portion of the tax proceeds is spent on the tax collection itself, then such a tax cannot be considered as a good tax.

*** (6) Explain non-tax sources of revenue of the government.**

Ans. Non-tax sources of revenue of the government are as follows :

(1) **Fees :** Fee is paid by citizens in return for certain specific services rendered by the government. For example, education fee, registration fee, etc.

(2) **Prices of public goods and services :** Modern governments sell various types of commodities and services to the citizens. A price is a payment made by the citizens to the government for the goods and services sold to them. For example, railway fares, postal charges, etc.

(3) **Special assessment :** The payment made by the citizens of a particular locality in exchange for certain special facilities given to them by the authorities is known as 'special assessment.' For example, local bodies can levy a special tax on the residents of a particular area where extra/special facilities of roads, energy, water supply etc. are provided.

(4) Fines and penalties : The government imposes fines and penalties on those who violate the laws of the country. The objective of the imposition of fines and penalties is not to earn income, but to discourage the citizens from violating the laws framed by the government. For example, fines for violating traffic rules. However, the revenue from this source is comparatively limited.

(5) Gifts, grants and donations : The government may also earn some income in the form of gifts by the citizens and others. The government may also receive grants from the foreign governments and institutions for general and specific purposes. Foreign aid has become an important source of development finance for a developing country like India. However, this source of revenue is uncertain in nature.

(6) Special levies : The government levies duties on those commodities, the consumption of which is harmful to the health and well-being of the citizens. Like fines and penalties, the objective of special levies is not to earn income, but to discourage citizens from the consumption of harmful commodities. For example, duties levied on wine, opium and other intoxicants.

(7) Borrowings : The government borrows from the citizens in the form of deposits, bonds, etc. Government also gets loans from foreign governments and international organizations such as IMF, World Bank, etc. In modern times, loans are becoming more and more popular source of revenue for the governments.

(Note : Any four points are expected in answer.)

(7) Explain the types of public expenditure.

Ans. The types of public expenditure are as follows :

(1) Revenue expenditure : The expenditure which is incurred by the government for carrying out day-to-day functions of the government departments and various administrative services is called revenue expenditure. It is incurred regularly by the government. For example, administration costs of the government, payment of salaries, allowances and pensions of government employees,

costs paid for providing medical and public health services, etc.

(2) Capital expenditure : The expenditure which is incurred by the government for boosting the economic growth and development of a country is called capital expenditure. For example, huge investments in different development projects, loans granted to the state governments and government companies, repayment of government loans, etc.

(3) Developmental expenditure : The expenditure of government which yields direct productive impact on the country is called developmental expenditure. Developmental expenditure results in generation of employment, increase in production, price stability, etc. For example, expenditure on health, education, industrial development, social welfare, Research and Development (R & D), etc.

(4) Non-developmental expenditure : The expenditure of government which does not yield any direct productive impact on the country is called non-developmental expenditure. For example, administration costs, war expenditure, etc.

(8) Define the term Public Finance. Explain the meaning and nature of Public finance.

Ans. (A) Definitions : (1) According to **Hugh Dalton** : "Public finance is one of those subjects which are on the borderline between economics and politics. It is concerned with the income and expenditure of public authorities and with the adjustment of one with the other."

(2) According to **Prof. Findlay Shirras** : "Public finance is the study of the principles underlying the spending and raising of funds by public authorities."

(B) Meaning and Nature :

(1) The concept of public finance is a combination of two words viz. 'public' and 'finance'. 'Public' is a collective for the individuals living within an administrative territory. In economics, the term public is used to signify the government which represents the public. 'Finance' simply means income and expenditure.

(2) Thus 'public finance' is a branch of economics studying the principles of income and expenditure of the central government, state government and governments at local levels.

(9) Give definitions of Tax and explain the essential characteristics of tax.

Ans. (A) Definitions : (1) According to **Prof. Taussig** : "The essence of a tax as distinguished from other charges by government is the absence of a direct quid pro quo between the tax payer and the public authority."

(2) According to **Prof. Seligman** : "A tax is a compulsory contribution from the person to the government without reference to special benefits conferred."

(B) Essential characteristics : Some essential characteristics of tax are as follows :

(1) **Compulsory contribution** : A tax is a compulsory contribution to the government and every citizen of the country is legally bound to pay the tax imposed upon him/her. It is a major source of revenue to the government. If any person does not pay a tax, he/she can be punished by the government.

(2) **Payment for the common interest** : Tax is imposed on the tax payer by the government to enable the government to incur expenses in the common interests of the society.

(3) **No direct and proportionate benefit to the tax payer from the payment of the tax** : The payment of a tax by a person does not entitle him/her to receive any direct and proportionate benefits or services from the government in return for the payment of the tax.

(4) **Direct or indirect imposition** : Tax is directly imposed on income or property. It is indirectly imposed on various commodities and services.

(10) Differentiate between Internal Debt and External Debt.

Ans. Internal debt and external debt can be differentiated with the help of the following points :

(1) Meaning : Debt raised by the government from borrowings from economic sources within the economy is called internal debt. On the other hand,

debt raised by the government from borrowings from economic sources outside the economy is called external debt.

(2) Examples : Debt raised by the government from borrowings from its citizens, domestic banks, central bank, domestic financial institutions, domestic business houses, etc. are the examples of internal debt. On the other hand, debt raised by the government from borrowings from foreign governments, foreign banks or foreign institutions, international organisations like International Monetary Fund, World Bank, etc. are the examples of external debt.

(3) Nature : Internal debt may be voluntary as well as involuntary (i.e. compulsory) in nature. On the other hand, external debt is voluntary, i.e. optional in nature.

(4) Use of currency : Internal debt is received and repaid using domestic currency. On the other hand, external debt is received and repaid using foreign currency.

(5) Management : The management of internal debt is comparatively less complex. On the other hand, management of external debt is comparatively more complex.

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

*** (1) Obligatory function is the only function of the government.**

Ans. No, I disagree with this statement.

Reasons : (1) In modern times, modern government performs many other optional functions in addition to the traditional obligatory functions of defence and civic administration.

(2) The government performs optional functions for the purpose of boosting economic and social development in the country. The optional functions of the government are constantly increasing.

(3) Provision of education and health services, implementation of social security schemes, promotion of industrial development, employment generation, etc. optional functions are carried out by the government.

Thus, obligatory function is not the only function of government; it is one of many functions.

*** (2) Fines and penalties are a major source of revenue for the government.**

Ans. No, I disagree with this statement.

Reasons : (1) Revenue from fees and penalties is non-tax revenue. The government receives less revenue from non-tax sources than it does from tax sources.

(2) The Government receives revenue in the form of fines and penalties only if a person violates the law.

(3) However, it cannot be said that many individuals will consistently violate the laws of the country.

Therefore, fines and penalties are not a major source of revenue for the government.

*** (3) The Goods and Services Tax (GST) has replaced almost all indirect taxes in India.**

Ans. Yes, I agree with this statement.

Reasons : (1) Goods and Services Tax (GST) has been implemented in India from 1st July 2017. Goods and Services Tax (GST) is a broad indirect tax levied on goods and services across the country.

(2) Goods and Services Tax has been imposed in place of Central Excise Duty, Service Tax, Additional Customs Duty, Value Added Tax of States, Entrance Tax, Entertainment Tax, etc.

(3) The price of goods and services sold to the customer is no longer subject to various indirect taxes, but includes goods and services tax (GST). The consumer pays Goods and Services Tax (GST) which is included in the price of goods and services when purchasing various goods.

Thus, Goods and Services Tax (GST) has replaced almost all indirect taxes in India.

*** (4) Democratic governments do not lead to increase in public expenditure.**

Ans. No, I disagree with this statement.

Reasons : (1) In many countries of the world, the modern government has adopted a policy of intervention for the economic and social development of the country instead of adopting a policy of non-intervention (laissez faire).

(2) For the economic and social development of the country, the modern government is spending heavily on optional functions such as dissemination of education, provision of public health facilities, provision of recreational facilities, implementation of social welfare schemes, etc.

(3) The modern government is constantly adopting new optional (voluntary) functions on a large scale and carrying out traditional functions more efficiently. For this, the modern government is constantly spending more and more amount of money.

Thus, democratic governments lead to increase in public expenditure.

*** (5) Public finance is more elastic than private finance.**

Ans. Yes, I agree with this statement.

Reasons : (1) Private financial transactions (finance) are carried out by individuals or private entities for fulfilling private interests. In contrast, public finance transactions (finance) are carried out by the government for the purpose of maximizing the benefits to the society.

(2) The economic and social needs of an individual do not change constantly, the needs of an individual are relatively constant. On the contrary, the economic and social needs of the society are constantly changing. As a result, a person's private finance remains relatively stable. In contrast, the government's public finance is constantly changing.

(3) For example, in the event of a major outbreak of an infectious disease in a country, there will not be a significant change in a person's personal expenditure and income. But in this situation, the government has to increase the expenditure on health facilities and for this the government can get financial funds in various ways.

Thus, public finance is more elastic than private finance.

(6) Capital budget consists of revenue receipts and revenue expenditure.

Ans. No, I disagree with this statement.

Reasons : (1) The capital budget consists of government's estimated capital receipts and anticipated capital expenditure.

(2) Capital receipts of capital budget includes in the form of tax and non-tax sources, debt recovery and other receipts.

(3) Capital expenditure of capital budget includes expenditure in the form of payment of interest on loans, payment of dividends on investments, provision of grants to states, etc.

Thus, capital budget does not consist of revenue receipts and revenue expenditure, but it consists of capital receipts and capital expenditure.

(7) When government expenditure is greater than government revenue it is called surplus budget.

Ans. No, I disagree with this statement.

Reasons : For the reasons, refer to Q. 8 (2) in Answer the following.

(8) During the period of recession deficit budget is advisable.

Ans. Yes, I agree with this statement.

Reasons : For the reasons, refer to Q. 8 (3) in Answer the following.

*** 10 Read the following table/diagram/passage and answer the following questions :**

(4 Marks)

The conventional notion of social security is that the government would make periodic payments to look after people in their old age, ill-health, disability and poverty. This idea should itself change from writing a cheque for the beneficiary to institutional arrangements to care for beneficiaries, including by enabling them to look after themselves, to a large extent.

The write-a-cheque model of social security is a legacy from the rich world at the optimal phase of its demographic transition, when the working population was numerals enough and earning enough to generate the taxes to pay for the care of those not working. This model is ill-suited for less, well-off India with growing life expectancy, increasing urbanization and resultant migration. Social security under urbanization will be different from social security in a static society.

Questions :

(1) State the conventional notion of social security.

(2) What kind of conceptual change is suggested in the given paragraph.

(3) What is a legacy of social security from the rich world?

(4) Which features of India make the traditional model of social security ill-suited for the economy?

Ans.

(1) The conventional notion of social security is that the government should provide periodic payments to concerned people to look after their old age, ill-health, disability and poverty.

(2) Conceptual change in social security in the form of making institutional arrangements to take care of the beneficiaries and making them self-reliant instead of paying them in the form of cheques is suggested in the given paragraph.

(3) Optimal phase of demographic transition is a legacy of social security in a rich world.

(4) The features of India like low economic resources, increasing life expectancy, increasing urbanization and resultant migration make the traditional model of social security ill-suited for the economy.

11 Answer the following question in detail :

(8 Marks)

*** Explain various reasons for the growth of public expenditure.**

Ans. The reasons for the growth of public expenditure are as follows :

(1) Increase in the activities of the Government : For the economic and social development of the country, the modern government is continuously spending a large amount on activities like dissemination of education, provision of health facilities, provision of recreational services, implementation of social welfare schemes. The government is adopting new optional functions and performing traditional obligatory functions more efficiently. The government has to spend a lot to carry out all these functions. As a result, public expenditure is rising.

(2) Rapid increase in population : As India is a developing country, population growth in India is accelerating. According to the 2011 census, India's population was 121.02 crore. Public expenditure is increasing as the government has to spend heavily to meet the various needs of the growing population.

(3) Growing urbanization : In modern times, the pace of urbanization is increasing in many countries of the world. In newly emerging and developed urban areas, the government has to provide water supply, electricity supply, transportation facilities, sanitation facilities, recreational facilities. For providing these various facilities, the government has to incur continuous expenditure and as a result public expenditure is increasing.

(4) Increasing defence expenditure : In modern times, unstable and hostile international relations have increased. Many countries around the world are increasing defence spending to cope with potential foreign aggression and war. As a result, public expenditure is rising.

(5) Spread of democracy : Most of the countries of the world have adopted the system of democracy. In a democratic system, the process of forming a government is carried out by holding general

elections after a certain period of time. In a country like India, which is large in size and population, huge expenses have to be incurred for elections. As a result, public expenditure is rising.

(6) Inflation : Just as a person spends money on purchasing various goods and services to meet his personal needs, so the government spends money on purchasing various goods and services to meet the needs of the society. Prices of most goods and services continue to rise. As a result, public expenditure is rising.

(7) Industrial Development : In order to achieve the objectives of increase in production, increase in employment and overall growth in the economy, large scale industrial development is required in the country. As a result, in developing countries like India, a large amount of money is being spent on industrial development schemes to boost industrial development. As a result, public expenditure is rising.

(8) Disaster Management : The modern government is spending heavily on managing natural disasters like floods, earthquakes, hurricanes and man-made disasters like social unrest, riots, wars, etc. As a result, public expenditure is rising.





MONEY MARKET AND CAPITAL MARKET IN INDIA

IMPORTANT CONCEPTS

- (1) **Central Bank** : According to Dr. M.H. deKock, "Central bank is one which constitutes the apex of the monetary and banking structure of the country."
- (2) **Commercial Bank** : According to Banking Regulation Act of 1949, "Banking means the accepting, for the purpose of lending or investment, of deposits of money from the public, repayable on demand or otherwise, and withdrawable by cheque, demand draft, order or otherwise."

CHAPTER AT A GLANCE

1. Introduction :

(1) Finance is the backbone of an economy. Finance is categorized as personal finance, corporate finance and public finance.

(2) The financial system in India comprises of financial institutions, financial markets, financial instruments and financial services.

2. Meaning of Financial Market :

(1) Financial market refers to a market where sale and purchase of financial assets such as bonds, stocks, derivatives, government securities, foreign currency, etc. is undertaken.

(2) Financial markets include two distinct markets, i.e. the money market and capital market.

3. Money Market in India :

(1) Money market is a market for lending and borrowing of short term funds. It is a market for "near money", i.e. short term instruments such as trade bills, government securities, promissory notes, etc.

(2) The instruments in money market are highly liquid, less risky and easily marketable with a maturity period of one year or less than one year.

4. Structure of Money Market in India :

The structure of money market in India is explained in the following table :

Structure of Money Market In India	
Organized Money Market	Unorganized Money Market
1. The Reserve Bank of India	1. Indigenous bankers
2. Commercial banks	2. Money lenders
3. Co-operative banks	3. Unregulated non-bank financial intermediaries
4. Development financial institutions	
5. Discount and Finance House of India	

5. Constituents of Organized Money Market :

The constituents of organized money market are as follows :

(1) **Reserve Bank of India** : (1) Established on April 1, 1935 (2) Nationalization on January 1, 1949 (3) Bank for issuing currency notes (4) Banker to the Government (5) Banker to the bank (6) Custodian of foreign exchange reserves (7) Controls credit creation by using quantitative and qualitative measures (8) Collects and publishes data (9) Performs promotional and developmental functions (10) Acts as a clearing house and a lender of last resort to banks.

(2) **Commercial Banks** : (1) Banks operating for the purpose of accumulation of savings and disbursement of loans from them. (2) Accepting deposits, lending, ancillary functions and credit

creation are the important functions of commercial banks.

(3) Co-operative Banks : (1) Banks catering to the financial needs of the local population (2) Three Tier co-operative credit structure of co-operative banks is as follows : Primary Co-operative Societies, District Central Co-operative Banks and State Co-operative Banks (Apex Bank).

(4) Development Financial Institutions (DFIs) : (1) Institutions providing medium and long term financial assistance (2) Transformation of competent development financial institutions into universal banks.

(5) Discount and Finance House of India (DFHI) : (1) Establishment to provide liquidity to financial instruments in the money market (2) Jointly owned by the Reserve Bank of India, public sector banks and financial institutions.

6. Constituents of unorganized Money Market :

The constituents of unorganized money market in India are as follows :

(a) Indigenous Bankers : (1) Financial intermediaries (2) Transactions in short term credit instruments like hundi (3) Related to specific social group (4) For example, goldsmiths, brokers, traders, etc.

(b) Money Lenders : (1) Mainly working in rural areas (2) Distribution of unproductive loans (3) High lending rates.

(c) Unregulated non-bank financial intermediaries : (1) Includes chit funds, nidhis, and loan companies. (2) Allocation of funds collected to the member by bidding or lottery. (3) Allocation of loans to the members at reasonable rates through the fund. (4) Loan lending by loan companies to traders, small entrepreneurs and self-employed persons at high rates.

7. Role of Money Market in India :

The role of money market in India is as follows :

(1) It helps in meeting the short term needs of the borrower.

(2) It helps in management of liquidity and money in economy.

(3) It helps in portfolio management of investors.

(4) It helps in establishing a balance between supply and demand of short term funds.

(5) It helps in meeting the financial needs of the government.

(6) It helps in implementation of monetary policy through the Reserve Bank of India.

(7) It helps in economizing the use of cash.

(8) It accelerates the growth in commerce, industry and trade.

8. Problems of Indian Money Market :

The problems of Indian money market are as follows :

(1) Due to the dual structure of organized sector and unorganized sector, there is a lack of coordination.

(2) There is a lack of equality in interest rates between the organized sector and the unorganized sector.

(3) Inadequate savings lead to shortage of funds.

(4) Seasonal fluctuations show seasonal fluctuations in interest rates.

(5) There is a lack of financial inclusion of weaker economic elements in the economy.

(6) Delays in upgradation of technology hampers the working of the money market.

9. Reforms Introduced in the Money Market :

The following reforms have been introduced in the money market of India :

(1) New instruments like Treasury Bills, Commercial Papers (CPs), Certificate of Deposits (CDs) and Monetary Market Mutual Funds (MMMFs) have been introduced.

(2) RBI Repos and Reverse Repos were introduced under Liquidity Adjustment Facility (LAF).

(3) Emphasis is being laid on determining interest rates mainly by market forces.

(4) National Electronic Funds Transfer (NEFT) and Real Time Gross Settlement (RTGS) funds have been introduced to expedite the transfer of funds.

(5) An electronic dealing system has been introduced to bring about technical improvements.

10. Capital Market in India :

(1) Capital market is a market for long term funds both equity and debt raised within and outside the country. It is also an important constituent of the financial system. Development of an effective capital market is necessary for promoting more

investments as well as achieving economic growth.

(2) The demand for long term funds comes from agriculture, trade and industry. Individual savers, corporate savings, banks, insurance companies, specialized financial institutions are the suppliers of long term funds.

11. Structure of Capital Market in India :

The structure of capital market in India is explained in the following table :

Structure of Capital Market In India			
Government Securities Market	Industrial Securities Market	Development Financial Institutions	Financial Intermediaries
	New Issue Market	IFCI	Merchant Banks
	Old Issue Market	ICICI	Mutual Funds
		SFCs	Leasing Companies
		IDBI	Venture Capital Companies
		IIBI	Others
		UTI	

12. Constituents of Capital Market in India :

(1) Government Securities Market : (1) Gilt edged market (2) Deals in government and semi-government Securities.

(2) Industrial Securities Market : (1) Deals with the transactions of shares and debentures issued by old and new companies. (2) Divided into two parts, viz. primary market and secondary market (3) Primary market is related to raising fresh capital through primary sale of shares and debentures. (4) Secondary market is related to trading with securities already issued by companies. (5) Secondary market works through stock exchanges. (6) The Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) are the major stock exchanges in the country.

(3) Development Financial Institutions : (1) Provides medium and long term credit to private sector (2) Industrial Finance Corporation of India (IFCI), Industrial Investment Bank of India (IIBI), Exim Bank, etc. are the important development financial institutions.

(4) Financial Intermediaries : (1) Acting as a link to fulfil the financial objectives of both the investor and the borrower. (2) Merchant banks, mutual funds, leasing companies, venture capital companies, etc. act as financial intermediaries.

13. Role of Capital Market in India :

The role of capital market in India is explained in the following points :

(1) It helps in bringing together long-term savings in various sectors of the population through the sale of securities and helps meet the growing demand for funds in the country.

(2) It provides equity capital to entrepreneurs.

(3) It helps in achieving operational efficiency.

(4) It helps in determining the fair and quick value of both equity (shares) and debt (bonds and debentures).

(5) It helps in coordination by consolidating the real and financial sector, equity and debt instruments, government sector and private sector, domestic and external funds, etc.

14. Problems of Capital Market :

The following are the problems of capital market in India :

(1) Due to the increasing number of financial scams, the capital market is facing irreparable losses in the form of declining public confidence.

(2) Illegal transactions such as insider trading and price manipulation are adversely affecting the smooth functioning of the capital market of India.

(3) Due to restrictions on entry into the capital market of small and medium enterprises and other factors, there is relatively limited trading in the debt securities.

(4) As investors are able to transact online, the Bombay Stock Exchange and the National Stock Exchange are preferred by investors to invest in securities. This has led to a sharp decline in trade in other regional stock markets.

(5) The efficiency of information in the Indian stock market is relatively low compared to other developed countries.

15. Reforms Introduced in Capital Market :

The following reforms were introduced in the capital market of India :

(1) The Securities and Exchange Board of India (SEBI) was established in 1988 and was given statutory recognition in 1992.

(2) India's leading stock exchange, i.e. National Stock Exchange was established in 1992.

(3) As part of modernization, a Computerized Screen Based Trading System (SBTS) has been introduced in the capital market of India.

(4) D-MAT account facility has been made available to the investors in the capital market since 1996 to facilitate the buying and selling of shares.

(5) Increased access to global funds by Indian companies was permitted through American Depository Receipts (ADR) and Global Depository Receipts (GDR).

(6) The Investor Education and Protection Fund (IEPF) was established in 2001 to raise the awareness of investors in the capital market and to safeguard the interests of investors.

EXERCISE

1 Choose the correct option : (1 Mark each)

- * (1) Development financial institutions were established to
 (a) provide short term funds
 (b) develop industry, agriculture and other key sector
 (c) regulate the money market
 (d) regulate the capital market
- * (2) Money market faces the shortage of funds due to
 (a) inadequate savings
 (b) growing demand for cash
 (c) presence of unorganized sector
 (d) financial mismanagement
- * (3) Individual investors have lost confidence in the capital market due to
 (a) lack of financial instruments
 (b) high transaction costs
 (c) low returns
 (d) financial scams

- * (4) Commercial banks act as intermediaries in the financial system to
 (a) make profits
 (b) accelerate the country's economic growth
 (c) mobilise the savings and allocating them to various sectors of the economy
 (d) control the credit
- (5) In India, there is a lack of uniformity in the rates of interest in money market because of
 (a) delays in technological upgradation
 (b) lack of quick valuation
 (c) seasonal fluctuations in demand
 (d) unproductive spending habits

Ans. (1) develop industry, agriculture and other key sector (2) inadequate savings (3) financial scams (4) make profits (5) seasonal fluctuations in demand.

2 Find the odd word : (1 Mark each)**[1]**

- * (1) **Types of Bank Accounts** : Saving a/c, D-mat a/c, Recurring a/c, Current a/c.
- * (2) **Unregulated Financial intermediates** : Mutual fund, Nidhi, Chit fund, Loan Companies.
- * (3) **Financial Assets** : Bonds, Land, Government securities, Derivatives.
- * (4) **Quantitative Tools** : Bank rate, Open market operations, Foreign exchange rate, Variable reserve ratios.
- (5) **Constituent in the organized money market in India** : Money lenders, Commercial banks, Development financial institutions, Discount and Finance House of India.

Ans. (1) D-mat a/c (2) Mutual fund (3) Land (4) Foreign exchange rate (5) Money lenders.

[2]

Note : The activity given in 'Find Out' on Page 81 of the textbook is included here with answers by rewording it.

- (1) **Personal finance** : Clearing home loan through EMI (Equated Monthly Instalments), Clearing car loan through EMI (Equated Monthly Instalments), Managing working capital needs, Taking loan from money lender for repairing of house.
- (2) **Corporate finance** : Raising share capital through sale of equity shares, Managing working capital needs, Raising loan from commercial bank for the purchase of machinery, Collection of tax revenue.
- (3) **Public finance** : Building a retirement corpus, Collection of tax revenue, Raising share capital through sale of equity shares by private company, Expenditure on social infrastructure such as health and education.

Ans. (1) Managing working capital needs (2) Collection of tax revenue (3) Raising share capital through sale of equity shares by private company.

[3]

Note : The activity given in 'Find Out' on Page 90 of the textbook is included here with answers by rewording it.

- (1) **Regional stock exchanges in South India** : Bangalore Stock Exchange, Mangalore Stock Exchange, Bhubaneswar Stock Exchange, Madras Stock Exchange.
- (2) **Regional stock exchanges in North India** : Cochin Stock Exchange, Delhi Stock Exchange, Jaipur Stock Exchange, Meerut Stock Exchange.
- (3) **Regional stock exchanges in Western Maharashtra** : Over the counter Exchange of India, Pune Stock Exchange, Guwahati Stock Exchange, Ahmadabad Stock Exchange.

Ans. (1) Bhubaneswar Stock Exchange (2) Cochin Stock Exchange (3) Guwahati Stock Exchange.

3 Complete the correlation : (1 Mark each)**[1]**

- * (1) Money Market : Short term funds : : : Long term funds
- * (2) : Central bank : : SBI : Commercial bank
- * (3) Co-operative banks : Organized sector : : Indigenous bankers :
- * (4) Primary market : : : Secondary market : Old issues
- (5) Government Securities Market : Capital Market : : Loan companies :

Ans. (1) Capital market (2) The Reserve Bank of India (3) Unorganized sector (4) New issues (5) Money market.

[2]

Note : The activity given in 'Find Out' on Page 83 of the textbook is included here with answers by rewording it.

- (1) Central Bank of USA : Federal Reserve Bank : : Central Bank of Canada :
- (2) Central Bank of Russia : : : Central Bank of Germany : Deutsche Bundesbank.

(3) Central Bank of China : People's Bank of China :: Central Bank of UK (United Kingdom) :

(4) Central Bank of Sweden : :: Central Bank of France : Bank of France

(5) Central Bank of Japan : Bank of Japan :: Central Bank of Australia :

Ans. (1) Bank of Canada (2) Central Bank of the Russian Federation (3) Bank of England (4) Sveriges Riksbank (5) Reserve Bank of Australia.

[3]

Note : The activity given in 'Find Out' on Page 85 of the textbook is included here with answers by rewording it.

(1) State Bank of India :  ::  ::

(2) Union Bank of India :  ::  ::

(3) :  :: HDFC Bank : 

Ans. (1) HSBC Bank (2) Axis Bank (3) Standard Chartered Bank.

4 Give economic terms : (1 Mark each)

(1) Debt instrument issued by companies or the government as a means of borrowing long term funds.

(2) Shares of a company held by an individual or a group.

(3) A financial security which derives its value/ price from the underlying assets such as bonds, stocks, currency, interest rates, commodities, etc.

(4) Debt instruments issued by a government with a promise of repayment at maturity.

(5) Bill of exchange drawn on and accepted by a trader (trade acceptance) in payment of goods.

(6) Financial instrument that contains a written promise by one party to pay another party a definite sum of money, either on demand or at a specified future date.

Ans. (1) Bonds (2) Equity shares (3) Derivatives (4) Government securities (5) Trade bills (6) Promissory note.

5 Assertion and Reasoning Type Questions : (1 Mark each)

* (1) **Assertion (A)** : Money market economizes use of cash.

Reasoning (R) : Money market deals with financial instruments that are close substitutes of money.

(1) (A) is true, but (R) is false

(2) (A) is false, but (R) is true

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

* (2) **Assertion (A)** : Regional stock exchanges have witnessed a sharp decline in the volume of trade.

Reasoning (R) : Investors prefer to trade in securities listed in premier stock exchanges like BSE, NSE, etc.

(1) (A) is true, but (R) is false

(2) (A) is false, but (R) is true

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

* (3) **Assertion (A)** : The unorganised sector of the money market lacks transparency.

Reasoning (R) : Activities of the unorganised sector are largely confined to rural areas.

(1) (A) is true, but (R) is false.

(2) (A) is false, but (R) is true.

(3) Both (A) and (R) are true and (R) is the correct explanation of (A)

(4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A)

* (4) **Assertion (A)** : Foreign exchange management and control is undertaken by commercial banks.

Reasoning (R) : RBI has to maintain the official rate of exchange of rupee and ensure its stability.

- (1) (A) is true, but (R) is false.
- (2) (A) is false, but (R) is true.
- (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (2) (A) is false, but (R) is true.

(5) Assertion (A) : Money market in India lacks financial inclusion of the weaker sections.

Reasoning (R) : People from weaker sections have ample facilities for saving and getting loans.

- (1) (A) is true, but (R) is false.
- (2) (A) is false, but (R) is true.
- (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (1) (A) is true, but (R) is false.

6 Identify and explain the concepts from the given illustrations : (2 Marks each)

*** (1) Raghu's father regularly invests his money in stocks and bonds.**

Ans. (A) Identified concept : Investment in Stock Market.

(B) Explanation of concept : Stock Market (Exchange) is an important constituent of the capital market which is an association or organization in which stocks, bonds, commodities, etc. are traded.

*** (2) Sara makes a monthly contribution to a fund jointly created by her friends. The collected fund is then given to a chosen member through lucky draw.**

Ans. (A) Identified concept : Chit funds.

(B) Explanation of concept : Chit funds is a constituent of unorganized money market in India in which members make regular contribution to the fund. Bids or draws are made on the basis of a criteria mutually agreed upon by the members. Accordingly, the collected fund is given to the chosen member.

*** (3) Tina deposited a lump sum amount of ₹ 50,000 in the bank for a period of one year.**

Ans. (A) Identified concept : Fixed deposit.

(B) Explanation of concept : A fixed deposit is a type of deposit in which the saver deposits a certain amount in the form of a deposit in a commercial bank for a fixed period of time and he can withdraw the amount from the deposit after a specified period.

*** (4) ABC bank provides d-mat facility, safe deposit lockers, internet banking facilities to its customers.**

Ans. (A) Identified concept : Ancillary functions of commercial banks.

(B) Explanation of concept : Commercial banks provide many customer services to the customers. The function of providing these services is called ancillary functions of commercial banks.

(5) Prakash decided not to invest in the stock market as the financial scandal was exposed.

Ans. (A) Identified concept : Loss of confidence among the individual investors.

(B) Explanation of concept : Financial frauds/scandals in the share market increase public distrust and prevent investors from making individual investments.

*** 7 Distinguish between the following :**

(2 Marks each)

(1) Money Market and Capital Market :

Ans.

Money Market	Capital Market
--------------	----------------

1. Meaning

A type of financial market in which short-term finance is provided is called the money market.

A type of financial market in which the medium term and long term finance is provided is called the capital market.

2. Constituents

The Reserve Bank of India, commercial banks, co-operative banks, development financial institutions, Discount and Finance House of India, indigenous bankers, money lenders, unregulated non-bank financial intermediaries, etc. are the constituents of money market in India.

Government securities market, Industrial securities market, development financial institutions, financial intermediaries, etc. are the constituents of capital market in India.

(2) Demand Deposits and Time Deposits :**Ans.**

Demand Deposits	Time Deposits
1. Meaning	
Deposits that are withdrawn on demand are called demand deposits.	Deposits that are withdrawn after a certain period of time are called time deposits.
2. Types	
Current deposits and savings deposits are the types of demand deposits.	Recurring deposits and fixed deposits are the types of time deposits.

(3) Organized Sector of Money Market and Unorganized Sector of Money Market :**Ans.**

Organized Sector of Money Market	Unorganized Sector of Money Market
1. Meaning	
The sector formed by the components of the money market that come under the direct control and supervision of the Reserve Bank of India is the organized sector of the money market.	The sector formed by the components of the money market that are not under the direct control and supervision of the Reserve Bank of India is the unorganized sector of the money market.
2. Rate of Interest	
In the organized sector of money market, financing is available to borrowers at relatively low interest rates.	In the unorganized sector of money market, financing is available to borrowers at relatively high interest rates.

8 Answer the following : (4 Marks each)

*** (1) Explain the problems faced by the money market in India.**

Ans. The problems faced by the money market in India are as follows :

(1) Dual structure : The money market in India has a dual structure, i.e. organized sector of money market and unorganized sector of money market. The organized sector of money market includes the Reserve Bank of India, commercial banks, co-operative banks, development financial institutions, Discount and Finance House of India, etc. The unorganized sector of money market in India includes money lenders, indigenous bankers, unregulated non-bank financing intermediaries, etc. Due to this dual structure of the money

market, there is a lack of transparency and stability in the Indian money market. There is a lack of coordination in the unorganized sector of the Indian money market. Also, the unorganized sector of the Indian money market does not come under the direct control and supervision of the Reserve Bank of India.

(2) Lack of uniformity in the rates of interest : The interest rate charged on the debt in the unorganized money market in India is relatively high. In the organized money market of India, there exists a difference in the rate of interest of commercial banks, co-operative banks, non-bank finance companies, development finance institutions, investment companies, etc. This lack of similarity in interest rate adversely affects the efficiency of the money market of India.

(3) Shortage of funds : Due to limited per capita income, lack of banking habits among the general public, over-emphasis on useless consumption expenditure, inadequate banking facilities in rural areas, etc., the savings rate among the people of India is low. Inadequate savings have led to a shortage of funds in the money market of India.

(4) Seasonal fluctuations : In India, during the peak season, i.e. from October to June, there is a huge demand for finance due to various reasons such as trading in agricultural products, investing in agro-based businesses, etc. During the peak season, the demand for finance in the money market is high and the supply is low, leading to an increase in lending rates. Demand for finance is relatively low in the post-harvest period, leading to lower borrowing rates. As a result, the money market of India, especially the unorganized sector, experiences significant fluctuations in seasonal interest rates and lending rates, adversely affecting the efficiency of the money market of India.

(5) Lack of financial inclusion : Banking facilities are not adequately accessible to the economically weaker lower income groups in India. As a result, people in this group do not have adequate savings and loan opportunities. As a result, there is a lack of financial inclusion in the money market of India.

(6) Delays in technological upgradation : It is essential to use the latest technology for the development and smooth functioning of the money market. Due to some delays in the improvement of technology in India, the functioning of the money market in India is hampered.

(Note : Any four points expected in the answer.)

*** (2) Explain the functions of commercial banks.**

Ans. The functions of commercial banks are as follows :

(1) Accepting deposits : Deposits are the main source of funds for commercial banks. Commercial banks accept the following types of deposits :

(A) Demand deposits : Demand deposits are deposits that are withdrawn on demand. The following are the two types of demand deposits :

(a) Current deposits : Current deposits are generally kept in current account by businessmen, corporations and trusts. The account holder can deposit money in the current deposit account any number of times and withdraw as many times as demanded. Current deposit account holders are also given the facility of overdraft, i.e. facility to withdraw in excess of the balance in the account.

(b) Savings deposits : Savings deposits are held mainly by salaried class and small traders. The account holder can deposit money in the savings deposit account at any number of times and withdraw money as and when required.

(B) Term deposits : Deposits held for a fixed period are called term deposits. The following are the two types of term deposits :

(a) Recurring deposits : Recurring deposits are regularly kept in the recurring deposit account, especially by small savers. Recurring deposits encourage regular savings.

(b) Fixed Deposits : Fixed deposits are kept by the saver for a fixed period. The amount deposited by the saver can be withdrawn after the stipulated period. Interest is paid at the highest rate on fixed deposits.

(2) Providing loans and advances : Commercial banks use deposits accepted from depositors to lend to needy persons. Commercial banks provide short, medium and long term loans to individuals and institutions for various purposes. The longer the loan period, the higher is the loan rate. Apart from this, commercial banks also offer cash credit, overdraft facility and also discount bills of exchange.

(3) Ancillary functions : Commercial banks provide various facilities like transfer of funds, collection of money, making periodical payments on behalf of the customers, safe deposit lockers, D-mat facility, internet banking facility, mobile banking facility, etc.

(4) Credit creation : Credit creation is an important function of commercial banks. Commercial banks create credit on the basis of primary deposits. Commercial banks use demand and term deposits to lend after meeting the cash

reserve requirement. Commercial banks deposit the loan amount in the borrower's account when lending a loan. Thus, loans are made from primary deposits and secondary deposits are made while lending loans. Thus, commercial banks create credit.

(3) Write the details of the co-operative banks in the organized sector of money market of India.

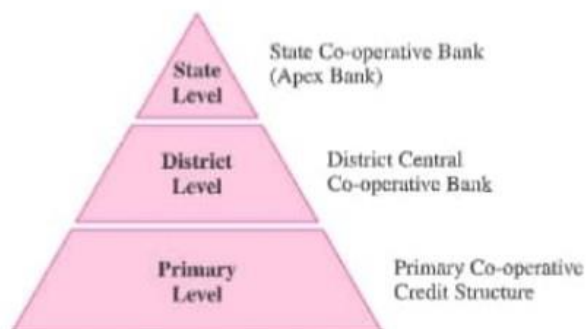
Ans. Co-operative banks in the organized sector of money market of India can be explained with the help of the following points :

(1) Co-operative banks came into existence in India under the Co-operative Credit Societies Act, 1904. Co-operative banks cater to the credit needs of the local people and thereby complement the efforts of commercial banks.

(2) Co-operative banks mainly cater to the banking needs of low and middle income groups.

(3) The co-operative banking sector in India has a three tier co-operative credit structure like (i) Primary Co-operative Society (in rural areas), (ii) District Central Co-operative Bank (in rural and urban areas) and (iii) State Co-operative Bank (Apex Bank).

(4) The three-tier co-operative credit structure of the co-operative banking sector in India is explained with the help of the following diagram :



(4) Write the detail about the development financial institutions in the organized sector of money market of India.

Ans. The development financial institutions in the organized sector of money market of India can be explained with the help of the following points :

(1) Development financial institutions provide medium and long term financial assistance to agriculture, industry and other major sectors. The Industrial Finance Corporation of India (IFCI) is

the first development financial institution in India established in 1948.

(2) Due to the liberalization and globalization policy adopted by India, the financial needs of the development finance sector (corporate sector) have increased significantly. Many foreign companies have entered into agreements with Indian companies. As a result, development financial institutions in India have diversified their operations.

(3) Development financial institutions in India have set up affiliates to provide a wide range of new products and services such as commercial banking, consumer finance, broking, venture capital finance, infrastructural financing, e-commerce, etc.

(4) The successful development financial institutions in India are in the process of transforming themselves into commercial banks for which they have been given guidelines by the Reserve Bank of India. For example, ICICI (Industrial Credit and Investment Corporation), of India, has become a leading commercial bank by the reverse merger with its subsidiary ICICI Bank.

(5) Write information about various components of the unorganized money market of India.

Ans. The following are the various components of the unorganized money market of India :

(1) Indigenous bankers : Indigenous bankers are financial intermediaries, they act like banks. Indigenous bankers deal mainly in indigenous and short-term credit instruments like hundi. Indigenous bankers generally belong to specific social groups. Indigenous bankers are an important source of finance in areas where banking facilities are scarce. Indigenous bankers provide loans for agriculture, trade and industry. For example, goldsmiths, traders, brokers, etc.

(2) Money lenders : In India, mainly in rural areas, money lenders seem to be financing agricultural labourers, marginal farmers, smallholder farmers, artisans and small traders. Generally, loans are often taken from money lenders for unproductive purposes. Money lenders usually charge high interest rates on loans they make. Due

to the tendency of money lenders to exploit the borrowers, the Reserve Bank of India has imposed legal restrictions on the activities of money lenders.

(3) Unregulated non-bank financing intermediaries : Unregulated non-bank financing intermediaries include the following components :

(a) Chit funds : In Chit funds, members regularly pay a fixed amount in the form of member funds. One of the members is selected by the accepted bidding or draw method and the funds collected accordingly are given to that member. In India, the states of Kerala and Tamil Nadu use chit funds extensively for financing.

(b) Nidhi : Nidhi is a traditional lucrative form of finance in India. The Nidhi is run on the financial contribution of the members. In the form of nidhis, loans are provided to the members at reasonable rates.

(c) Loan companies : Loan companies provide loans to traders, small entrepreneurs and self-employed persons. Loan companies charge high interest rates on loans as they do not come under the direct control of the Reserve Bank of India.

(6) Write about the reforms introduced in the money market of India.

Ans. The major reforms introduced in the money market of India are as follows :

(1) Introduction of new instruments : New instruments like treasury bills, Commercial Papers (CPs), Certificates of Deposits (CDs) and Money Market Mutual Funds (MMMFs) have been introduced in the money market of India.

(2) Liquidity Adjustment Facility : The Liquidity Adjustment Facility (LAF) in the money market of India includes the Repos and Reverse Repos of the Reserve Bank of India.

(3) Mechanism of market forces : In the money market of India, the emphasis is mainly on determining interest rates by market forces.

(4) Facilities for faster transfer of funds : National Electronic Fund Transfer (NEFT) and Real Time Gross Settlement (RTGS) funds have been introduced to facilitate faster transfer of funds in the money market of India.

(5) Technological upgradation : An electronic dealing system has been introduced to bring technological upgradation in the money market of India.

(7) Explain the structure of the capital market of India.

Ans. The structure of the capital market of India is explained in the following points :

(1) Government securities market : The Government Securities Market is called the gilt edged market. Government and semi-government securities are traded in this market and the interest rate on these transactions is fixed.

(2) Industrial securities market : The industrial securities market deals with the transactions of shares and debentures imposed by old and new companies. The industrial securities market is divided into primary market and secondary market. The initial sale of securities in the primary market helps in raising new capital. In the secondary market, companies deal with securities already in place. Secondary markets are operated through stock exchanges. The stock exchanges are important component of the capital market. Stocks, bonds, commodities, etc. are traded in the stock markets. The Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) are the major stock markets in the country.

(3) Development financial institutions : Development financial institutions provide medium and long term credit to the private sector. Industrial Finance Corporation of India (IFCI), Industrial Investment Bank of India (IIBI), EXIM Bank, etc. are important development financial institutions in the capital market of India.

(4) Financial intermediaries : Financial intermediaries act as a link between the financial objectives of both the investor and the borrower. Merchant banks, mutual funds, lease companies and venture capital companies are the financial intermediaries in the capital market of India.

***(8) Explain the role of capital market in India.**

Ans. The role of the capital market in India is explained in the following points :

(1) Mobilization of long-term savings : Industrial organizations and the government need a large amount of funds for investment and financial resources. Availability of financial resources are insufficient to meet the demand for these funds. In such a case, the sale of securities by the capital market helps to bring together the long-term savings of different sections of the population.

(2) Provision of equity capital : The capital market provides equity capital to entrepreneurs. Entrepreneurs use the share capital to buy assets for the industry and to fund business operations.

(3) Operational efficiency : Capital market reduces the cost of transactions and simplifies the transaction process. Capital market helps financial transactions to achieve operational efficiency by reducing the time taken to buy and sell stocks.

(4) Quick valuation : Capital market helps to determine the fair and quick value of equities (shares) and debt (bonds and debentures).

(5) Integration : The capital market coordinates by consolidating the real and financial sector, equities and debt instruments, public sector and private sector, domestic and external funds, etc.

***(9) Explain the problems of the capital market in India.**

Ans. The following are the problems of capital market in India :

(1) Financial Scams : Financial scams are on the rise in the Indian capital market. Rising financial scandals have increased the distrust of the general public and as a result, investors' confidence in investing in the capital market has waned. As a result, capital markets face irreparable losses in the form of declining public confidence.

(2) Insider trading and price manipulation : Since some individuals have access to confidential information of companies. Such individuals, for personal gains, buy and sell securities on the basis of the unpublished confidential information of companies. Some individuals deliberately raise

or lower the price of shares by buying and selling shares of certain companies for personal gain. Such illegal transactions are adversely affecting the smooth functioning of the capital market of India.

(3) Inadequate debt instruments : In the capital market of India, debt instruments include bonds, debentures, etc. Due to narrow investor base, high cost of issuance, restrictions on entry of small and medium enterprises into the capital market, etc., there is relatively few trading in debt securities.

(4) Decline in the volume of trade : Capital market investors can trade online. As a result, capital market investors in various parts of the country prefer to invest in securities listed in premier stock exchanges like in the Bombay Stock Exchange and in the National Stock Exchange. As a result, there has been a sharp decline in trade in regional stock exchanges in India.

(5) Lack of information efficiency : If the company's current stock price incorporates all the information about the company, then a market is said to be informationally efficient. However, the efficiency of information in the Indian stock market is relatively low compared to other developed countries. As a result, investors do not get the expected return on investment and thus lose faith in the capital market.

(10) Explain the reforms introduced in the capital market of India.

Ans. Capital market reforms in India are as follows :

(1) Establishment of SEBI : The Securities and Exchange Board of India (SEBI) was established in 1988 to improve capital market transactions in India and was given statutory recognition in 1992.

(2) Establishment of Stock Exchange : India's leading stock exchange, i.e. National Stock Exchange (NSE) was established in 1992 to improve capital market transactions in India.

(3) Adoption of computerized system : As part of modernization, Computerized Screen Based Trading System (SBTS) was introduced in the capital market of India.

(4) D-MAT account facility : D-MAT account facility has been made available to the investors in the capital market since 1996 so that investors can easily buy and sell shares.

(5) Increased access to global funds : Increased access to global funds by Indian companies is allowed through American Deposit Receipts (ADR) and Global Deposit Receipts (GDR).

(6) Establishment of Investor Education and Protection Fund : The Investor Education and Protection Fund (IEPF) was established in 2001 to raise the awareness of investors in the capital market and to safeguard the interests of investors.

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

(1) There are no problems faced by money market of India.

Ans. No, I disagree with this statement.

Reasons : For the answer, refer to Q. 8 (1) Answer the following.

(Note : Any three points are expected in the answer.)

(2) Commercial banks accept various types of deposits.

Ans. Yes, I agree with this statement.

Reasons :

(1) Accepting deposits : Deposits are the main source of funds for commercial banks. Commercial banks accept the following types of deposits :

(A) Demand deposits : Demand deposits are deposits that are withdrawn on demand. The following are the two types of demand deposits accepted by the commercial banks :

(1) Current deposits : Current deposits are generally kept in current account by businessmen, corporations and trusts. The account holder can deposit money in the current deposit account any number of times and withdraw as many times as demanded. Current deposit account holders are

also given the facility of overdraft, i.e. facility to withdraw in excess of the balance in the account.

(2) Savings deposits : Savings deposits are held mainly by salaried class and small traders. The account holder can deposit money in the savings deposit account at any number of times and withdraw money as and when required.

(B) Term deposits : Deposits held for a fixed period are called term deposits. The following are the two types of term deposits accepted by commercial banks :

(1) Recurring deposits : Recurring deposits are regularly kept in the recurring deposit account, especially by small savers. Recurring deposits encourage regular savings.

(2) Fixed Deposits : Fixed deposits are kept by the saver for a fixed period. The amount deposited by the saver can be withdrawn after the stipulated period. Interest is paid at the highest rate on fixed deposits.

(3) Many reforms have been introduced in the money market of India.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 8 (6) Answer the following.

(Note : Any three points are expected in the answer.)

(4) There are many problems faced by the capital market of India.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 8 (9) Answer the following.

(Note : Any three points are expected in the answer.)

(5) Many reforms have been introduced in the capital market of India.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 8 (10) Answer the following.

(Note : Any three points are expected in the answer.)

(6) Money market plays an important role in India.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 10 (1)
Answer the following question in detail.

(Note : Any three points are expected in the answer.)

(7) The Reserve Bank of India performs various functions.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 10 (2)
Answer the following question in detail.

(8) Discount and Finance House of India (DFHI) is a constituent of organized money market of India.

Ans. Yes, I agree with this statement.

Reasons : (1) Based on the recommendations of the Vaghul Committee, the Discount and Finance House of India (DFHI) was established in 1988 as a money market institution.

(2) The Discount and Finance House of India (DFHI) was established to provide liquidity to the money market instruments.

(3) It is jointly owned by the Reserve Bank of India, public sector banks and financial institutions.

Thus, Discount and Finance House of India (DFHI) is a constituent of money market of India.

*** 10 Answer the following question in detail :
(8 Marks each)**

(1) Explain the role of money market in India.

Ans. The role of money market in India can be explained with the help of the following points :

(1) Meeting the short term requirements of the borrower : Due to the money market, the short term financial needs of the borrower are met at realistic interest rates.

(2) Liquidity management : Money market facilitates better management of liquidity and money in the economy by the monetary authorities. As a result, the country enjoys economic stability and economic development.

(3) Portfolio management : Money market deals with different types of financial instruments

that are designed to suit the risk and return preferences of investors. This enables the investors to manage portfolios to minimize the risks and to maximise the returns.

(4) Equilibrating mechanism : Money market leads to rational allocation of financial resources. The money market accelerates savings in the investment stream. The money market helps to strike a balance between the demand for and the supply of short-term funds.

(5) Meeting the financial requirements of the government : Money market helps the government to fulfil its short term financial needs on the basis of the Treasury Bills.

(6) Implementation of monetary policy : The main objective of monetary policy is to manage the quantity of money in the economy. In India, monetary policy is implemented by the Reserve Bank of India. Monetary policy makes it possible to meet the economic needs of different sectors of the economy and accelerate economic growth. The money market guides the Reserve Bank of India in developing appropriate interest rates. Thus, a fully developed money market in the economy helps in the successful implementation of monetary policy.

(7) Economising the use of cash : The money market is not about the actual money but about various financial instruments that are the close substitute to money. As a result, the money market helps to use cash sparingly.

(8) Promoting the growth of commerce, industry and trade : Local traders as well as international traders who are in the need of short-term funds have the facility to discount bills of exchange in the money market. Money market provides working capital for agro-industries and small scale industries. As a result, the money market drives the growth of commerce, industry and trade in the country.

(2) Explain the functions of the RBI.

Ans. The functions of RBI are as follows :

(1) Issue of currency notes : The Reserve Bank of India has a monopoly on printing of all rupee notes except one rupee note and all coins. According to the Minimum Reserve Policy of 1957,

the Reserve Bank of India has to reserve at least ₹ 200 crore. Of this, ₹ 115 crore is kept in terms of gold and ₹ 85 crore are kept in terms of foreign currency.

(2) Acting as a banker to the government : The Reserve Bank of India acts as a banker to the government. The Reserve Bank of India accepts deposits from the Central and State Governments and makes payments on their behalf as a representative of the Government. The Reserve Bank of India assists the government in managing public debt and provides advice on a number of financial issues.

(3) Acting as a banker to banks : The Reserve Bank of India has statutory control over all banks in India. All Scheduled Banks in India are required to reserve minimum cash with the Reserve Bank of India as per their demand and term liabilities. The Reserve Bank of India provides financial assistance to banks by discounting of eligible bills, providing advances against approved securities.

(4) Acting as a custodian of foreign exchange reserves : The Reserve Bank of India acts as the custodian of foreign exchange reserves. The Reserve Bank of India conducts the buying and selling of currencies of all member countries of the International Monetary Fund. The Reserve Bank of India helps in maintaining the official rate of exchange of rupee as well as ensure its stability.

(5) Controlling credit : As the Supreme bank in the country, the Reserve Bank of India controls the credit creation process of commercial banks. The Reserve Bank of India uses quantitative techniques to control the volume of credit, such as bank rates, open market operations, Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR). The Reserve Bank of India uses qualitative tools to regulate the use of credit, such as fixing margin requirements, credit rationing, moral suasion, etc.

(6) Collection and publication of data : The Reserve Bank of India collects and publishes statistical information related to banking and other financial sectors of the economy.

(7) Carrying out promotional and developmental functions : The Reserve Bank of India carries out promotional and developmental functions such as extending banking services in semi-urban and rural areas of India, providing financial securities to depositors, providing agricultural credit to farmers, providing industrial credit to boost industries.

(8) Performing other functions : The Reserve Bank of India acts as a clearing house for settling the accounts between its member banks. The Reserve Bank of India acts as the lender of last resort to all banks in India and provides liquidity to banks experiencing financial difficulties.



FOREIGN TRADE OF INDIA

IMPORTANT CONCEPTS

- (1) **Internal Trade** : The sale and purchase of goods and services within the geographical boundaries of a nation is called internal trade.
- (2) **International Trade** : The sale and purchase of goods and services outside the geographical boundaries of a nation (with other nations) is called international trade.

CHAPTER AT A GLANCE

1. Introduction :

(1) Prior to 1947, India was a British colony. Therefore, India's foreign trade was colonial.

(2) Before independence, India mainly exported raw materials to England and imported finished goods from England. Prior to independence, India could not be industrialized and many indigenous industries in India declined.

(3) After the Second World War, along with India, many countries of the world got independence. After independence, these countries began to see foreign trade as an investment opportunity.

2. Meaning of Internal Trade :

(1) The sale and purchase of goods and services within the geographical boundaries of a nation is called internal trade.

(2) Internal trade is also known as domestic trade or home trade.

3. Meaning of Foreign Trade :

(1) The sale and purchase of goods and services outside the geographical boundaries of a nation (with other nations) is called foreign trade or international trade.

(2) According to **Wasserman and Hultman**, "International trade consists of transactions between residents of different countries."

4. Types of Foreign Trade :

The types of international trade are explained with the help of the following table :

Types of International Trade	Explanation
1. Import Trade	Purchase of goods and services by one country from another country.
2. Export Trade	The sale of goods and services by one country to another.
3. Entrepot Trade	The process of processing goods imported from one country and exporting them to another country

5. Role of Foreign Trade :

(1) Foreign exchange is earned by foreign trade. The foreign exchange received can be used for various productive activities.

(2) Foreign trade promotes the production of various goods and services in the country and encourages investment.

(3) Foreign trade leads to division and specialization of labour at the global level.

(4) Due to foreign trade, each country diverts the available resources to the production of goods from which maximum profit can be obtained at minimum cost of production.

(5) Foreign trade helps in balancing the demand and supply of goods and hence creates stability in the price level of the economy.

(6) Foreign trade makes more and more options available and raises the living standards of the people.

(7) Foreign trade gives goodwill and reputation to exporting countries in the international market.

6. Composition and Direction of India's Foreign Trade :

(1) From 1990-91 to 2016-17, the share of India's net exports in India's Gross National Product increased from 17.55 per cent to 48.08 per cent.

(2) The volume and value of India's foreign trade has been increasing since 1990-91.

(3) Before independence, India mainly exported jute, cotton, tea, etc. to other countries. After independence, India started exporting readymade garments, gems and jewellery, etc.

(4) Before independence, India used to import large quantities of consumer goods such as medicines, textiles, vehicles, etc. At present, India is mainly importing consumer and capital goods such as petrol and petroleum products, high-tech machinery, chemicals, fertilizers, steel, etc.

(5) Most of India's foreign trade is by sea. About 68% of India's total foreign trade is done by sea.

(6) New ports like Kandla, Cochin, Vishakhapatnam, Nava sheva, etc. have been developed in India for foreign trade.

7. Direction of India's Foreign Trade :

(1) The direction of India's foreign trade indicates the final destination of India's exports and the major sources of imports.

(2) During the period of independence, England played a major role in India's foreign trade. But in the post-independence period, India has established trade relations with many countries.

(3) At present, the United States is India's major trading partner, followed by trade with Germany, Japan, the United Kingdom, etc.

8. Trends in India's Foreign Trade since 2001 :

(1) India's foreign trade has multiplied since the liberalization.

(2) Structural shifts have also taken place in the import and export of goods. The changes have also taken place in the geographical composition of India's foreign trade.

(3) India's current export trends in major commodities are shown with the help of the following table :

Exported Goods	Recent Trends
1. Engineering Goods	In 2017-18, the share of engineering exports in India's total exports was about 25 per cent.
2. Petroleum Products	India's total exports of petroleum products increased from 4.3 per cent to 20.1 per cent during 2001-02 to 2013-14.
3. Chemicals and Chemical Products	Chemicals and chemical products account for 10.4 per cent of India's total exports at present.
4. Gems and Jewellery	Exports of Gems and Jewellery accounted for 13.3 per cent of India's total exports in 2014-15.
5. Textiles and Readymade Garments	Textiles and readymade garments accounted for 11.3 per cent of India's total exports in 2014-15.

(4) India's current import trends in major commodities are shown in the following table :

Imported Goods	Recent Trends
1. Petroleum	From 1990-91 to present, India's petroleum imports have increased from 27% to 31%.
2. Gold	Significant decline in gold imports in 2013-14 due to strict government restrictions on imports.
3. Fertilizers	From 1990-91 to 2016-17, the share of fertilizers in India's total imports declined from 4.1 per cent to 1.3 per cent.
4. Iron and Steel	At present, the share of iron and steel imports in India's total imports is 2.1 per cent.

9. Concept of Balance of Payments :

(1) According to **Ellsworth**, "Balance of payments is a summary statement of all the transactions between the residents of one country and the rest of the world."

(2) According to **Walter Krause**, "The balance of payments of a country is a systematic record of all economic transactions completed between its residents and the rest of the world during a given period of time usually a concept of year."

10. Concept of Balance of Trade :

(1) According to **Bentham**, "Balance of trade of a country is the relation over a period between the values of her exports and imports of physical goods."

(2) According to **Samuelson**, "If export value is greater than the import value, it is called trade surplus and if import value is greater than export value, then it is called trade deficit."

EXERCISE

1 Choose the correct option : (1 Mark each)

* (1) Types of foreign trade :

- (a) Import trade (b) Export trade
(c) Entrepot trade (d) Internal trade

Options : (1) a and b (2) a, b and c
(3) a, b, c and d (4) None of these

* (2) Export trends of India's foreign trade includes :

- (a) Engineering goods
(b) Gems and Jewellery
(c) Textiles and ready-made garments
(d) Gold

Options : (1) a and c (2) a, b and c
(3) b, c and d (4) None of these

* (3) Role of foreign trade is :

- (a) To earn foreign exchange
(b) To encourage investment
(c) Lead to division of labour
(d) Bring change in composition of exports

Options : (1) a and b (2) a, b and c
(3) b and d (4) None of these

(4) A trade carried out within the boundaries of a nation :

- (a) External trade (b) International trade
(c) Home trade (d) Foreign trade

Options : (1) a, b, and d (2) a and d
(3) only c (4) only b

(5) India's source of import of petroleum :

- (a) Kuwait (b) Saudi Arabia
(c) China (d) Singapore

Options : (1) a and b (2) c and d
(3) a and c (4) b and d

Ans. (1) (2) a, b and c **(2)** (2) a, b and c
(3) (2) a, b and c **(4)** (3) only c **(5)** (1) a and b.

2 Find the odd word : (1 Mark each)

- (1) A commodity exported by India : Gold, Readymade garments, Tea, Rice.
(2) A commodity imported by India : Petroleum, Jute, Steel, Fertilizer

- (3) Important trading partner of India : USA, Japan, Sri Lanka, Germany. Financial Assets : Bonds, Land, Government securities, Derivatives.

Ans. (1) Gold (2) Jute (3) Sri Lanka.

3 Complete the correlation : (1 Mark each)

- (1) Import of India : Petroleum : :
 : Computer hardware
 (2) Home trade : Internal trade : : Foreign trade :

 (3) Source of import of India : Kuwait : :
 : China

Ans. (1) Capital market (2) External/international trade (3) Destination of export of India.

4 Give economic terms : (1 Mark each)

- (1) Purchase of goods and services by one country from another country.
 (2) Sale of goods and services by one country to another country
 (3) Systematic record of all international economic transactions of a particular country for a given period.
 (4) The difference between the value of country's exports and imports for a given period.

Ans. (1) Import trade (2) Export trade
 (3) Balance of payments (4) Balance of trade.

5 Assertion and Reasoning Type Questions : (1 Mark each)

(1) **Assertion (A)** : There was a significant drop in gold imports during 2013-14.

Reasoning (R) : During 2013-14, various policy measures were taken by the government to curb gold imports.

- (1) (A) is true, but (R) is false
 (2) (A) is false, but (R) is true
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (3) Both (A) and (R) are true and (R) is the correct explanation of (A).

(2) **Assertion (A)** : India did not have much industrialization during the pre-independence period.

Reasoning (R) : During pre-independence period, India used to export gold on a large scale.

- (1) (A) is true, but (R) is false
 (2) (A) is false, but (R) is true
 (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

Ans. (1) (A) is true, but (R) is false.

6 Identify and explain the concepts from the given illustrations : (2 Marks each)

* (1) **India purchased petroleum from Iran.**

Ans. (A) Identified concept : Import trade.

(B) Explanation of concept : Purchase of goods and services by one country from another country is called import trade.

* (2) **Maharashtra purchased wheat from Punjab.**

Ans. (A) Identified concept : Internal / Home trade (inflow of goods)

(B) Explanation of concept : Internal trade is the purchase (inflow) and sale (outflow) of goods and services within the geographical boundaries of a nation.

* (3) **England imported cotton from India, made readymade garments from it and sold them to Malaysia.**

Ans. (A) Identified concept : Entrepot trade

(B) Explanation of concept : The process of processing goods imported from one country and exporting them to another country is called entrepot trade.

* (4) **Japan sells smart phones to Myanmar.**

Ans. (A) Identified concept : Export trade.

(B) Explanation of concept : The sale of goods and services by one country to another country is called export trade.

(5) Maharashtra sold cotton to the state of Madhya Pradesh.

Ans. (A) Identified concept : Internal / Home trade (outflow of goods)

(B) Explanation of concept : Internal trade is the purchase (inflow) and sale (outflow) of goods and services within the geographical boundaries of a nation.

7 Distinguish between the following :

(2 Marks each)

(1) Internal Trade and International Trade :

Ans.

Internal Trade	International Trade
1. Meaning	
The sale and purchase of goods and services within the geographical boundaries of a nation is called internal trade.	The sale and purchase of goods and services outside the geographical boundaries of a nation (with other nations) is called international trade.
2. Use of Currency	
Domestic currency is used for buying and selling goods and services in internal trade.	Foreign currency is used for buying and selling goods and services in international trade.

(2) Trends in Imports of Foreign Trade and Trends in Exports of Foreign Trade :

Ans.

Trends in Imports of Foreign Trade	Trends in Exports of Foreign Trade
1. Meaning	
The import trend of foreign trade is the tendency of a country to reflect goods purchased from other countries, total dimensions of goods purchased from other countries, total value to be paid for goods purchased from other countries, etc.	The export trend of foreign trade is the tendency of a country to reflect goods sold to other countries, the total dimensions of goods sold to other countries, the total value derived from goods sold to other countries, etc.
2. Types	
Trends in imports of foreign trade of India include the commodities like petroleum, gold, fertilizers, iron and steel, sophisticated machinery, chemicals, etc.	Trends in exports of foreign trade of India include the commodities like engineering goods, petroleum products, chemical products, gems and jewellery, textiles and readymade garments, etc.

(3) Balance of Payments and Balance of Trade :

Ans.

Balance of Payments	Balance of Trade
1. Meaning	
Balance of payments refers to a systematic record of all international economic transactions of a particular country for a given period.	Balance of trade refers to the difference between the value of country's exports and imports for a given period.
2. Concept	
Balance of trade gets included in the balance of payments. Therefore, balance of payments is a broader concept.	Balance of trade is a part of balance of payments. Therefore, balance of trade is a narrower concept.

8 Answer the following : (4 Marks each)

(1) Explain the concept of internal trade.

Ans. The concept of internal trade can be explained with the help of the following points :

(1) The sale and purchase of goods and services within the geographical boundaries of a nation is called internal trade.

(2) Internal trade is also called domestic trade or home trade.

(3) For example, the sale of rice, mangoes, grapes, sugar, etc. by the State of Maharashtra to various states of India like Punjab, Kerala, etc.

(4) For example, the State of Maharashtra procures wheat from the State of Punjab and Tea and Coffee from the State of Kerala.

*** (2) Explain the concept of foreign trade and its types.**

Ans. (A) Concept of foreign trade : The concept of foreign trade is as follows :

(1) Foreign trade is trade between different countries of the world. Foreign trade is also called international trade or external trade.

(2) According to Wasserman and Hultman, "International trade consists of transactions between residents of different countries."

(B) Types of foreign trade : The types of foreign trade are as follows :

(1) Import trade : Purchase of goods and services by one country from another country is called import trade. The influx of goods and services from abroad to home country is called import trade. For example, India buys petroleum from Iraq, Kuwait, Saudi Arabia.

(2) Export trade : The sale of goods and services by one country to another is called export trade. The outflow of goods and services from home country to abroad is called export trade. For example, India sells tea, rice, jute to China, Hong Kong and Singapore.

(3) Entrepot trade : The process of processing goods imported from one country and exporting them to another country is called entrepot trade. For example, Japan imports raw materials for

the manufacture of electronics from England, Germany, France, etc. processes the raw materials to make electronic goods such as radios, washing machines, televisions and exports these goods to various countries of the world.

*** (3) Explain any four features of composition of India's foreign trade.**

Ans. The features of composition of India's foreign trade are as follows :

(1) Increasing share of GDP : The share of India's foreign trade in GDP is steadily increasing. The share of India's foreign trade in GDP was only 17.55 per cent in 1990-91. It increased to 25 per cent in 2006-07 and 48.08 per cent in 2016-17.

(2) Increase in the volume and value of trade : Since 1990-91, the volume and value of India's foreign trade has been increasing. India currently exports and imports a wide range of high value goods and services.

(3) Changes in the composition of exports : Before independence, India used to export basic commodities like jute, cotton, tea, oilseeds, leather, food grains, cashew nuts, mineral products to other countries. Since independence, India has started exporting readymade garments, gems and jewellery, computer hardware and software. Thus the composition of India's exports has changed.

(4) Changes in the composition of imports : Before independence, India used to import a large number of consumer goods such as medicines, cloth, motor vehicles, electrical goods, etc. At present, India is a major importer of petrol and petroleum, high-tech machinery, chemicals, fertilizers, steel, etc.

(5) Oceanic trade : Most of India's foreign trade is by sea. About 68% of India's total foreign trade is done by sea. India also has foreign trade relations with neighbouring countries like Nepal, Afghanistan, Myanmar, Sri Lanka, etc.

(6) Development of new ports : Large scale foreign trade was carried out in India mainly from important ports like Mumbai, Kolkata, Chennai, etc. Therefore these ports were overburdened.

Therefore, new ports like Kandla, Cochin, Vishakhapatnam, Nhava Sheva, etc. have been developed in India to reduce the additional burden on the existing ports.

(Note : Any four points expected in the answer.)

*** (4) Explain the trend in India's imports.**

Ans. The trend in India's imports can be explained with the help of the following points :

(1) **Petroleum** : Petroleum has been an important item in India's import trade even before and after the economic reforms. Petroleum imports accounted for about 27 per cent of India's total imports in 1990-91. At present, petroleum imports account for about 31 per cent of India's total imports. India has been importing the largest amount of petroleum for years.

(2) **Gold** : Gold is the second most imported commodity in India after petroleum. Gold imports of India declined significantly in 2013-14. India's gold imports fell to 27.5 billion in 2013-14 from 53.3 billion in 2010-11. The fall in international gold prices and the consequent policy of restrictions by the government on gold imports have led to a sharp decline in gold imports.

(3) **Fertilizers** : Fertilizers accounted for about 4.1 per cent of India's total imports in 1990-91. In 2016-17, the share declined to 1.3 per cent.

(4) **Iron and Steel** : In 1990-91, the share of iron and steel imports in the total imports of India was about 4.9 per cent. At present, the share declined to 2.1 per cent.

(5) Explain the concept of balance of payments.

Ans. The concept of balance of payments can be explained with the help of the following points :

(1) The Balance of payments of a country is a systematic record of all international economic transactions of that country during a given period, usually a year.

(2) According to Ellsworth, "Balance of payments is a summary statement of all the transactions between the residents of one country and the rest of the world."

(3) According to Walter Krause, "The balance of payments of a country is a systematic record of all economic transactions completed between its residents and the rest of the world during a given period of time usually a concept of year."

(4) From the above definitions, it is clear that the value of exchange of goods and services between citizens, businessmen, firms, governments during a given period of time is included in the balance of payments.

(6) Explain the concept of balance of trade.

Ans. The concept of balance of trade can be explained with the help of the following points :

(1) Balance of trade is the difference between the value of a country's exports and imports for a given period. Balance of trade is also referred to as the international trade balance.

(2) According to Bentham, "Balance of trade of a country is the relation over a period between the values of her exports and imports of physical goods."

(3) According to Samuelson, "if export value is greater than the import value it is called as trade surplus and if import value is greater than export value, then it is called trade deficit."

(4) It is clear from the above definitions that balance of trade includes the value of imports and exports of visible goods and invisible goods.

9 State with reasons whether you agree or disagree with the following sentences :

(4 Marks each)

*** (1) During British rule, indigenous handicrafts suffered a severe blow.**

Ans. Yes, I agree with this statement.

Reasons : (1) Prior to 1947, India was a British colony. Therefore, India's foreign trade was colonial.

(2) Before independence, India mainly exported raw materials to England and imported finished goods from England. Prior to independence, India relied heavily on trade with England for industrial goods.

(3) In the pre-independence period, England started selling large quantities of finished goods

made in factories in England to India. As a result, many people in India started buying goods from England and this reduced the demand for indigenous goods. As a result, many small and medium enterprises in India closed down.

Thus, during British rule, indigenous handicrafts suffered a severe blow.

*** (2) Trade is an engine of growth for an economy.**

Ans. Yes, I agree with this statement.

Reasons : (1) Foreign trade earns foreign exchange. The foreign exchange received can be used for various productive activities.

(2) Foreign trade provides an opportunity for domestic producers to sell goods and services in the domestic market as well as export to the world market.

(3) Encouragement of production and market expansion of indigenous goods and services encourages large scale investment in various industries in the country. Large investments increase employment levels and national income, leading to economic growth in the economy.

Thus, trade is an engine of growth for an economy.

*** (3) Foreign trade leads to division of labour and specialization at world level.**

Ans. Yes, I agree with this statement.

Reasons : (1) In foreign trade, each country seeks to maximize production of various goods and services at minimum cost according to the quantity and quality of labour available to it.

(2) For example, if there are unskilled and abundant labourers available in 'A' country, then such a country produces a large quantity of agricultural produce and exports agricultural produce to other countries. 'B' is a country that produces a large number of electronic goods and exports them to other countries if it has a skilled and limited number of workers.

(3) In foreign trade, each country consistently promotes the production of specific goods or services with the help of available labour so that maximum profits can be made.

Thus, foreign trade leads to division of labour and specialization at world level.

(4) India's trends in exports appear to have changed.

Ans. Yes, I agree with this statement.

Reasons : For the answer, refer to Q. 11 (2) Answer the following Questions in detail.

(Note : Any three points are expected in the answer.)

*** 10 Read the following table and answer the following questions : (8 Marks each)**

Direction of India's Import :

Sr. No.	Countries/ Organisations	Years	
		1990-91 Percentage	2015-16 Percentage
1.	OECD	54.0	28.8
2.	OPEC	16.3	23.6
3.	Eastern Europe	7.8	1.9
4.	Developing Nations	18.6	43.2
5.	Others	1.4	2.5

Questions :

(1) Which organization has the least share in the direction of India's imports in 2015-16?

(2) Which organization has maximum share in India's direction of imports in 1990-91?

(3) Expand the abbreviations of OECD and OPEC.

(4) State your opinion regarding the direction of India's imports.

(5) How much is the percentage of increase in the imports of developing nations in 2015-16 as compared to 1990-91?

Ans.

(1) The Eastern European Union has the least share in the direction of India's imports in 2015-16.

(2) OECD has the maximum share in India's direction of imports in 1990-91.

(3) Expansion of abbreviations : (1) OECD : The Organization for Economic Cooperation

and Development (2) OPEC : Organisation of Petroleum Exporting Countries.

(4) Compared to 1990-91, 2015-16 shows a significant change in the direction of India's imports. Compared to 1990-91, the share of imports from developing countries in India's total imports increased from 18.6 per cent to 43.3 per cent in 2015-16. Similarly, the share of imports from OECD declined from 54.0 per cent to 28.8 per cent. Similarly, the share of imports from Eastern Europe has declined from 7.8 per cent to 1.9 per cent.

(5) The percentage of increase in the imports of developing nations in 2015-16 as compared to 1990-91 is by 24.6 per cent.

*** 11 Answer the following questions in detail :
(8 Marks each)**

(1) Explain the meaning and role of foreign trade.

Ans. (A) Meaning of foreign trade : For the answer, refer to Q. 8 (2) (A) Answer the following.

(B) Role of foreign trade : The role of foreign trade can be explained with the help of the following points :

(1) To earn foreign exchange : Foreign exchange is earned through foreign trade. The foreign exchange received can be used for various productive activities. Foreign trade promotes the production and market expansion of domestic goods and services.

(2) Encourages investment : Foreign trade provides an opportunity for producers to sell goods and services in the domestic market as well as export to the world market. As a result, the production of various goods and services in the country is boosted and investment is encouraged.

(3) Division of labour and specialization : Foreign trade leads to division and specialization of labour at the global level. For example, if workers in country 'A' are skilled in agricultural production and workers in country 'B' are skilled in making

electronic products, then country 'A' can export agricultural products to country 'B' by acquiring specialization in agricultural products. 'B' country can export electronic products to 'A' country by acquiring specialization in electronic products.

(4) Optimum allocation and utilization of resources : Due to foreign trade, each country channelized the available resources to the production of the same goods from which maximum benefit can be obtained at minimum production cost. For example, if it would be possible to produce wheat at the lowest cost based on the resources available in country 'A' and if it would be possible to produce medicines at the lowest cost based on the production resources in country 'B', then country 'A' manufactures wheat and export wheat to country 'B'. Similarly, country 'B' manufactures drugs and exports drugs to country 'A'. Thus foreign trade leads to adequate allocation and utilization of resources internationally.

(5) Stability in price level : Foreign trade helps in balancing the demand and supply of goods and hence brings stability in price level in the economy.

(6) Availability of multiple choices : Foreign trade provides multiple choices of imported commodities. It thus creates competition in the market and hence high quality goods can be made available to the consumers at reasonable prices. Thus, foreign trade helps in raising the standard of living.

(7) Brings reputation and helps earn goodwill : Exporting countries get reputation and goodwill in the international market. For example, Japan and Switzerland have gained a great deal of goodwill in the international market by exporting electronic goods worldwide.

(2) Explain the recent trends in India's export.

Ans. The recent trends in India's export is as follows :

(1) Engineering goods : According to the report of the Engineering Goods Export Promotion Council (EGEPC), the exports of engineering goods

accounted for about 25 per cent of India's total exports in 2017-18. These items mainly included automobiles and auto components, machinery and equipment, computer hardware and software. From 2010-11 to 2014-15, India's exports of transport equipment amounted to 16 billion US dollars to 24.8 billion US dollars.

(2) Petroleum products : Significant increase have taken place in India's petroleum capacity since 2001-02. As a result, India became exporter of petroleum refinery products. Between 2001-02 and 2013-14, India's share of petroleum products exports grew sharply from 4.3 per cent to 20.1 per cent.

(3) Chemicals and chemical products : In the last few years, India has exported a large number of chemicals and chemical products. At present, chemicals and chemical products account for about 10.4 per cent of India's total exports.

(4) Gems and jewellery : Gems and jewellery make a significant contribution to India's exports. Gems and jewellery accounted for about 13.3 per cent of India's total exports in 2014-15.

(5) Textiles and readymade garments : In 2014-15, textiles and readymade garments accounted for about 11.3 per cent of India's total exports. India is a world leader in textile exports.

